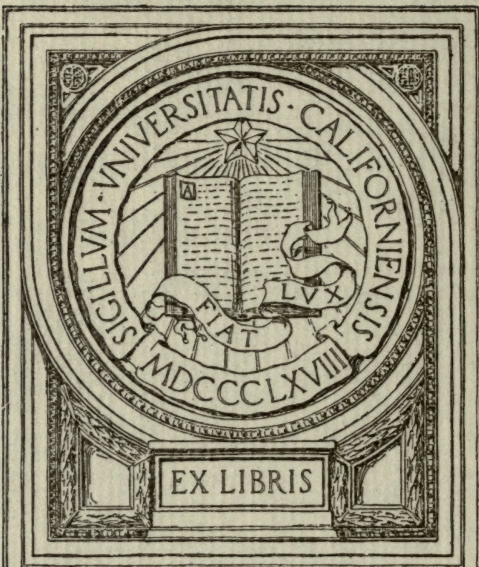


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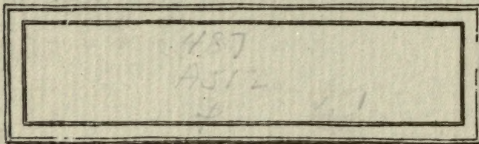
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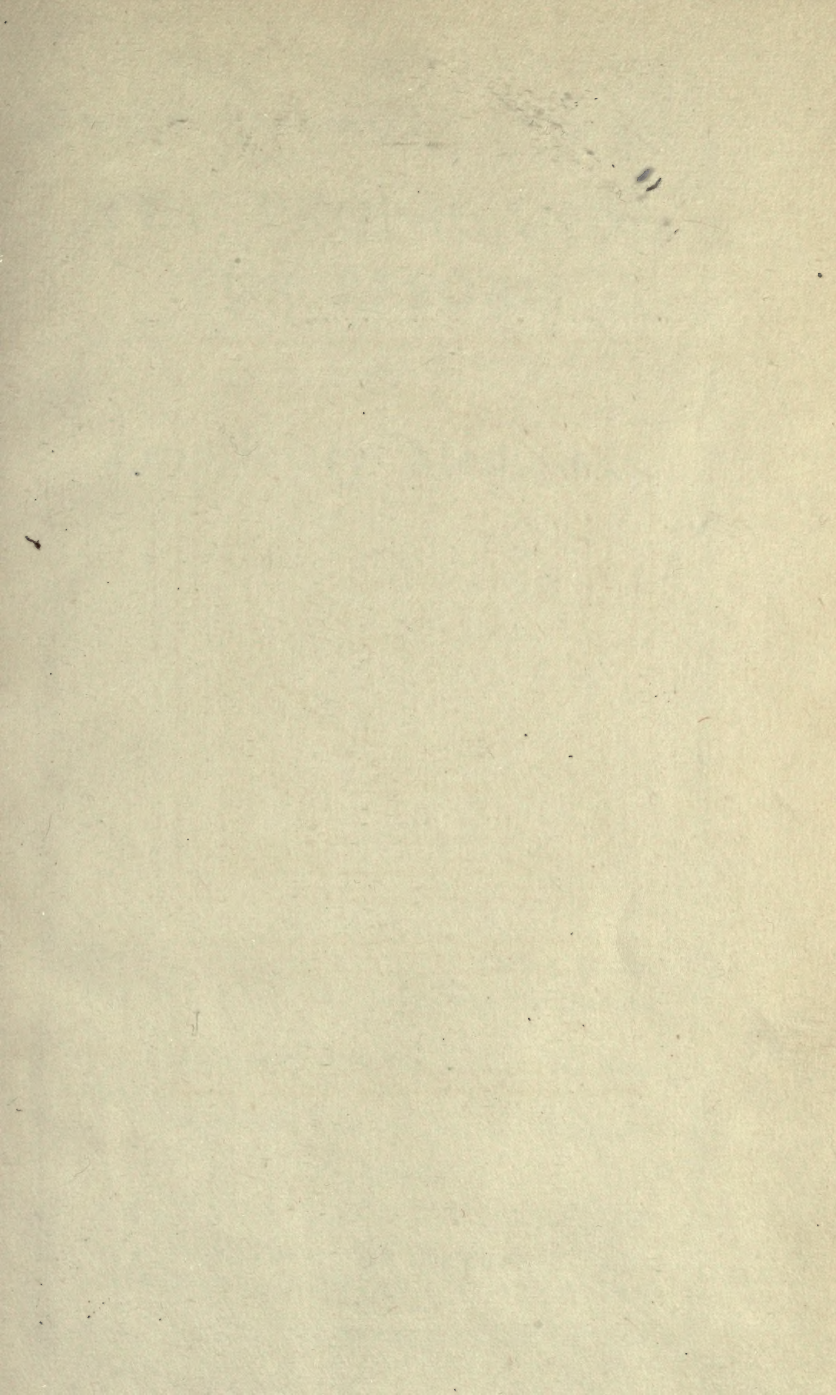
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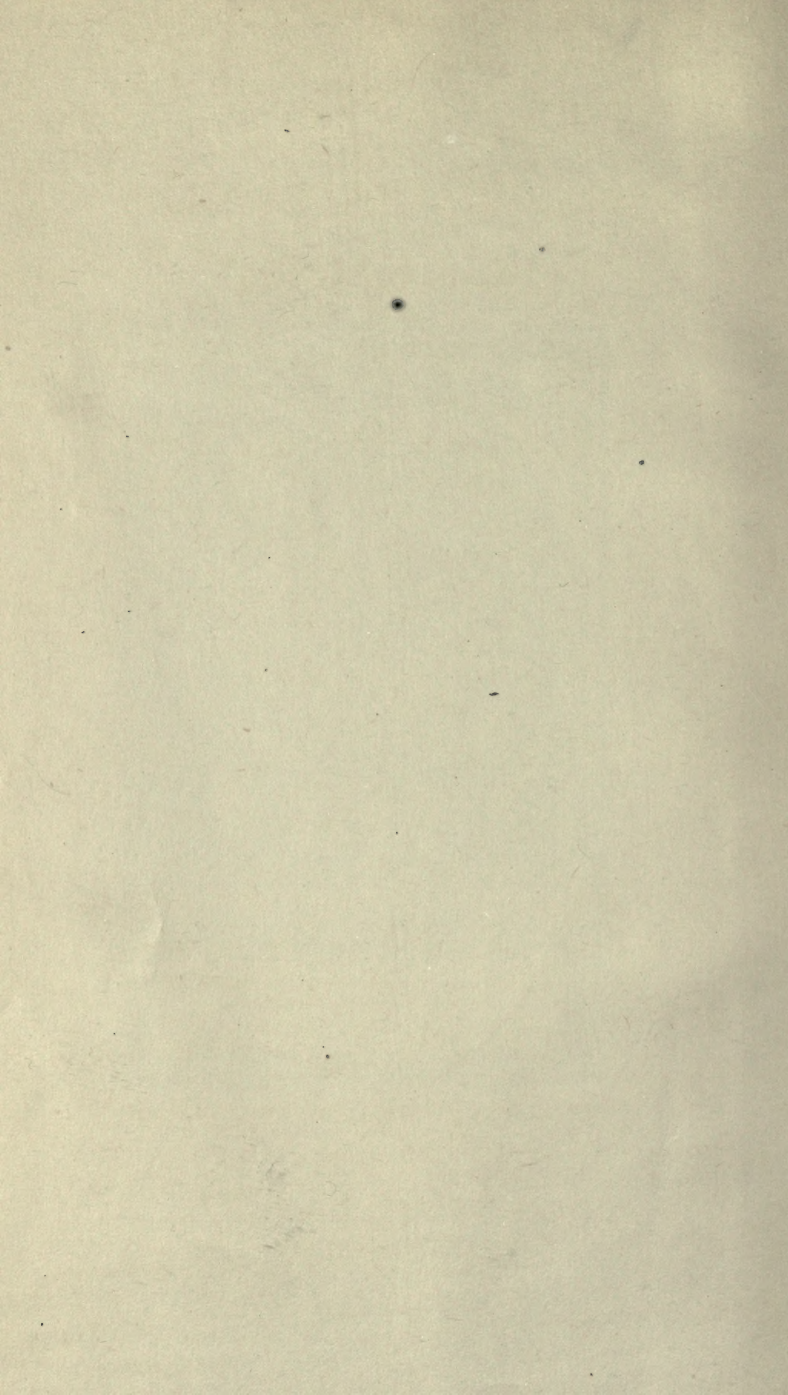




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THE PROPAGANDA FOR REFORM

— IN —

Proprietary Medicines

PART I. - - - - COUNCIL REPORTS

PART II. - - - - LABORATORY CONTRIBUTIONS

PART III.

CONTRIBUTIONS FROM THE JOURNAL: NOSTRUMS

PART IV.

CONTRIBUTIONS FROM THE JOURNAL: MISCELLANY

[NINTH EDITION]

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AMERICAN MEDICAL ASSOCIATION

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PREFACE

From time to time THE JOURNAL of the American Medical Association has published the reports of the Council on Pharmacy and Chemistry and the Chemical Laboratory, as well as other matter on proprietary medicines. Repeated requests for some of the matter have led to the compilation of "The Propaganda for Reform in Proprietary Medicines," which, in the present volume, attains its ninth edition.

The seventh, eighth and ninth editions have been compiled on slightly different principles from their predecessors. The therapeutic reform work of THE JOURNAL and of the Association's Chemical Laboratory was at first confined almost entirely to the criticism and analysis of the so-called ethical proprietaries. This was right; the medical profession owed it to the public to combat the nostrum evil within its own ranks.

As the more flagrant evils of the "ethical proprietary" question were mitigated, the Association has turned the light on the more widespread and dangerous "patent medicine" evil. The articles devoted to "patent medicines" or quackery being naturally of greater interest to the general public than to the medical profession, the number of inquiries from laymen regarding various quacks and nostrums has steadily increased. It has been thought best, therefore, to publish separately¹ all of the matter from THE JOURNAL relative to quackery and to those nostrums exploited only or chiefly to the public, and to include in the Propaganda for Reform practically none of the matter that is of direct interest primarily to laymen. In one or two instances in which the subjects were of equal interest to the profession and to the public matter that has already appeared in "Nostrums and Quackery" is also given here; but as a general rule the contents of the ninth edition of "The Propaganda for Reform" are of strictly professional interest. Those physicians who are desirous of obtaining in convenient

1. This matter appears in "Nostrums and Quackery," a 700-page book, and also in various pamphlets. Write for the descriptive price-list of publications dealing with the nostrum evil.

form the matter dealing with "patent medicines" should order the book "Nostrums and Quackery" or the various pamphlets on the same subjects that have been issued since "Nostrums and Quackery" came from the press.

The ninth edition of "Propaganda for Reform" contains a number of new articles, greatly increasing the size of the book. It also contains one novel feature which greatly enhances its value. The index includes references not only to articles in the book, but also to matter on proprietaries not accepted by the Council on Pharmacy and Chemistry which appeared in THE JOURNAL OF THE AMERICAN MEDICAL ASSOCIATION and elsewhere. This index makes of this edition of "Propaganda for Reform" a very full work of reference on proprietaries which are undeserving of recognition. It should be understood, however, that not all articles indexed are condemned; some are merely discussed and compared.

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THE PROPAGANDA FOR REFORM IN PROPRIETARY MEDICINES

PART 1 COUNCIL REPORTS

ACETANILID MIXTURES*

Report of the Council on Pharmacy and Chemistry

To the Council on Pharmacy and Chemistry:

In response to the request of your chairman we have investigated the below-mentioned preparations and report as follows:

Specimens of the articles were bought in different cities in the open market, and in original sealed packages, and were analyzed by some of us or under our direction. Each article was examined by at least two chemists, and some were subjected to several analyses. While certain of the preparations are represented as being chemical compounds, the specimens examined were all found to be mixtures, the principal ingredient being acetanilid. The percentage proportions of acetanilid given below are the minimum obtained by any of the analysts.

Soda and ammonia, combined with carbonic acid, are calculated and reported as sodium bicarbonate and as ammonium carbonate (U. S. P.) respectively. Salicylic acid is calculated and reported as sodium salicylate. Diluents and other constituents than those reported were not determined.

AMMONOL

According to the analyses of the contents of the original sealed packages as purchased, this was found to be a mixture, and to contain the following ingredients approximately in the proportions given:

Acetanilid.	Sodium Bicarb.	Ammonium Carb.
50.	25.	20.

ANTIKAMNIA †

According to the analyses of the contents of the original sealed packages as purchased, this was found to be a mixture, and to contain the following ingredients approximately in the proportions given:

Acetanilid	Caffein	Citric Acid	Sodium Bicarb.
68.	5.	5.	20.

* See also Labordine, p. 115; Headache Cures, p. 305; Anadol, p. 244; Phenalgin, 335.

† See also Antikamnia, The Nostrum and Its Method of Exploitation, page 268.

KOEHLER'S HEADACHE POWDERS

According to the analyses of the contents of the original sealed packages as purchased, this was found to be a mixture, and to contain the following ingredients approximately in the proportions given:

Acetanilid
76.

Caffein
22.

ORANGEINE

According to the analyses of the contents of the original sealed packages as purchased, this was found to be a mixture, and to contain the following ingredients approximately in the proportions given:

Acetanilid
43.

Sodium Bicarb.
18.

Caffein
10.

Other constituents said to be present were not determined.

PHENALGIN *

According to the analyses of the contents of the original sealed packages as purchased, this was found to be a mixture, and to contain the following ingredients approximately in the proportions given:

Acetanilid
57.

Sodium Bicarb.
29.

Ammonium Carb.
10.

Certain packages of phenalgin were purchased which on analysis did not show ammonium carbonate.

SALACETIN †

According to the analyses of the contents of the original sealed packages as purchased, this was found to be a mixture, and to contain the following ingredients approximately in the proportions given:

Acetanilid
43.

Sodium Bicarb.
21.

Sodium Salicylate
20.

We recommend that this report be printed in THE JOURNAL of the American Medical Association.

Respectfully submitted,

J. H. LONG, M.S., Sc.D.,

W. A. PUCKNER, Ph.G.,

S. P. SADTLER, Ph.D.,

J. STIEGLITZ, Ph.D.,

H. W. WILEY, M.D., Ph.D.,

} Committee on Chemistry,
Council on Pharmacy and
Chemistry of the A. M. A.

(From *The Journal A. M. A.*, June 3, 1905).

AGAR-LAC

Report of the Council on Pharmacy and Chemistry

Agar-lac, said to be the product of "Agar-lac, Inc.," is sold by E. Fougera and Company, New York. The following "formula" for Agar-lac is published:

"Agar-Agar with Lactic Ferments.....	Grs. 4½
Phenolphthalein	Grs. ½"

* See also Phenalgin—A Typical Example, p. 335.

† See also Salacetin, p. 356.

Regarding the "lactic ferment," the identity of which is not declared by the manufacturer and for the viability of which no precautions appear to be taken, the Council's expert on lactic acid ferments reported that *Bacillus bulgaricus* was present in small numbers only and that there were at least two other bacteria present, one of which is a gas-former of the *Bacillus coli* type.

The Council found that the amount of agar-agar in Agar-lac and the identity of the "lactic ferment" are not declared; that the name "Agar-lac" is blown in the glass and that the method of its exploitation will lead laymen to use it to their detriment; that the claims that it "facilitates assimilation of proteids" and that it is of value as an aid to "gastro-intestinal digestion" give a false value to the mixture and that the claims emphasize the action of agar-agar when from the composition it is evident that the phenolphthalein action will predominate; that the name does not indicate its predominating constituent, phenolphthalein, and that the use of a ready-made combination of cathartic drugs, such as agar-agar and phenolphthalein with lactic acid ferments, is unscientific. The Council therefore refused recognition to Agar-lac.—(*From The Journal A. M. A., Nov. 14, 1914.*)

ANASARCIN AND ANEDEMINE

Reports of the Council on Pharmacy and Chemistry and Comments Thereon

The following reports were submitted to the Council by the subcommittee to which these articles were assigned:

ANASARCIN

To the Council on Pharmacy and Chemistry:—Your subcommittee to whom Anasarcin (Anasarcin Chemical Co., Winchester, Tenn.) was assigned, herewith submits its report:

This remedy is offered in two forms: "Anasarcin Tablets," a pretended combination of the active principles of oxydendron arboreum, sambucus canadensis, and urguea scilla; and "Anasarcin Elixir," said to contain the active principles of oxydendron, sambucus, hepatica and potassium nitrate. The advertisements of these articles conflict with the rules of the Council as follows:

With Rules 1 and 2: The composition of these articles is kept secret, in that the proportion of the ingredients is not furnished. The statement that it contains the "active principles" is misleading, since these are for the most part unknown.

With Rule 6: The description of the pharmacologic action of Anasarcin agrees practically with that of squill. No material part of its effects can be attributed to the other ingredients. Nevertheless, the advertisement studiously cultivates the impression that Anasarcin has no relation whatever to the digitalis group in which scilla is commonly placed.

The claims are therefore misleading. The claim of its infinite superiority to digitalis, the claims that it cures neurasthenia, eliminates uric acid in rheumatism, and is useful in obesity, cystitis, lumbago and eclampsia, dyspepsia and asthma, and that it works wonders in exophthalmic goiter, appear exaggerated or false.

The recommendation of its indiscriminate use in nephritis, for lowering the blood-pressure and the statement (contradicted in the firm's own literature) that it is not depressing, are actually dangerous.

It is recommended that the articles be refused recognition, and that the report, with explanations, be published.

ANEDEMIN

To the Council:—Your subcommittee to whom Anedemin (Anedemin Chemical Co., Winchester, Tenn.) was assigned herewith submits its report:

Anedemin is an evident imitation of Anasarcin. It is marketed as tablets, said to contain the isolated active principles of strophanthus, apocynum, squill and sambucus, chemically combined. The quantities are not stated. The therapeutic claims are copied almost literally from the Anasarcin circulars and are equally false. Anedemin, therefore, conflicts with Rules 1, 5, 6 and 7.

It is recommended that this report be published, with comments.

The reports were adopted by the Council and are herewith published.

W. A. PUCKNER, Secretary.

Anasarcin

This wonderful remedy, Anasarcin, has already been exposed in these columns (THE JOURNAL A. M. A., Jan. 27, 1906), but it deserves additional mention, as it teaches several important lessons of general application. It is a typical example of the revival, under a new name and a thin disguise, of an old, time-worn article, squill, presumably because experience has demonstrated its general inferiority to other drugs. Anasarcin further illustrates the dangers involved in the use of semi-secret nostrums. It also shows how a short experience with a widely advertised but little understood drug is apt to lead to conclusions which more extensive experience demonstrates to be entirely fallacious.

The first lesson is, that formulas are not always what they seem. A hasty glance at the formula of Anasarcin tablets, the basis of the Anasarcin dropsy cure, creates the impression that it is a non-secret remedy; for it is said to represent a combination of the active principles of oxydendron, sambucus and scilla. As a matter of fact, it is a secret nostrum of the insidious kind. A formula which omits the quantities of its potent ingredients means very little. Further than this, we do not hesitate to charge that the claimed composition is a deliberate deception. The cir-

culars emphasize the claim that Anasarcin consists of the *isolated principles*, and not of the crude drugs. Now, the isolated active principles of sambucus and oxydendron are not on the market, for the good and sufficient reason that no active principles have ever been isolated. Are we to believe that the Anasarcin Company has surpassed the accredited chemists and has discovered such principles and is isolating them? We shall have more to say on this subject presently; but any one in the least familiar with the difficulties attending the isolation of organic principles knows such an idea to be preposterous. Indeed, it is absolutely incompatible with the exhibition of ignorance of the elementary facts of pharmaceutical chemistry which is given by these people when they call the active principles of digitalis and squill "alkaloids."

It is an axiom that the effects of a mixture can only be understood if the action of its components are known. So far as we know, the physiologic effects of oxydendron and sambucus have never been scientifically investigated, for the simple reason that they are too slight and indefinite to promise results. Both are credited with some slight, obscure diuretic action. Oxydendron, the sour wood or sorrel tree, is a small tree of the heath family, the acid leaves of which are said to be chewed by hunters for their pleasant taste and for the relief of thirst. Sambucus is the common elder. It is most unlikely that these two innocuous substances should play any part in the claimed powerful effect of Anasarcin; they are evidently put in the formula, we do not say in the preparation, to obscure the fact that Anasarcin is composed principally of squill. That this is so can be gathered unmistakably from a study of the pharmacologic action of Anasarcin as described by its promoters:

Acting primarily on the heart and arterial systems through the nerve ganglia, a natural physiologic balance is established between the arterial and venous systems, whereby effusions . . . are eliminated . . .

Coincident with this action there is a noteworthy *slowing* of the pulse. . . . If the remedy is pushed, can be brought down to 20 or 30 beats per minute. . . . Its physiological action is to stimulate the cardiac motor-ganglia through the cardiac plexus of the sympathetic system and at the same time exert an inhibitory influence upon the cardiac fibers of the pneumogastric, thereby dilating the arterioles, slowing the heart's action, and increasing the force of the systole.

. . . . The prolonged diastole allows the ventricle time to completely fill, and the more forcible contraction causes the mitral valve to close more thoroughly and at the same time increases pressure in the coronary arteries, serving thereby the double purpose of relieving pulmonary engorgement and increasing heart nutrition.

Anasarcin will nauseate some persons.

To appreciate fully the meaning of this description of the actions of Anasarcin, it should be compared with the effects of the digitalis group, to which squill belongs. The following account is quoted literally from a recent text-book of pharmacology (Sollmann):

The phenomena of the therapeutic stage of digitalis action are said to be:

1. Slowing of the heart, with systole and diastole both lengthened.

2. Increased strength of beat, leading to greater efficiency of the individual contractions, and to an increase in the total efficiency.

3. A tendency to the systolic phase.

4. A rise of blood-pressure, due mainly to the increased action of the heart, but partly also to a vasoconstriction.

The therapeutic action may be explained, in part, as follows:

A larger amount of blood will be thrown into the aorta and coronary circulation. The first effect will be an improved nutrition of the heart. . . . The tonic action . . . narrows the ring of the valves, brings them together, narrows the orifice. . . . The venous congestion will tend to be relieved. This relief . . . will fall in the first place on the lungs. . . . The lowering of the venous pressure will tend to cause absorption of the effusions.

The nauseant action of squill, which is alluded to in connection with Anasarcin, is too well known to require more than a mention.

In brief, then; it appears from the statements of the Anasarcin Company that the action of the remedy is that of squill and that the other ingredients are a mere blind. It is, of course, well known that squill can be used as a substitute for digitalis in cardiac dropsy, although it is generally considered very inferior to the latter drug. Rose Bradford, for instance, states: "Squill is not used to any extent in the treatment of cardiac disease and cardiac dropsy, digitalis being a far more efficient and less toxic substance." However, it has been frequently observed that digitalis occasionally fails, and it may then be replaced successfully by another member of the group. At all events, it is very likely that squill is a fairly efficient substitute for digitalis, especially when it is supplemented by a very free course of Epsom salts and by potassium nitrate (the active ingredient of Anasarcin Elixir), both of which are stated to be essential adjuvants to the Anasarcin (or squill) tablets. There can be no objection to the use of squill when it is indicated; but any one who wishes to use it should do so with his eyes open, knowing what substance he is using and how much (which he does not in Anasarcin); knowing also that it has the same indications and limitations as digitalis. He should not be misled by such statements as the following:

"Does what dropsy medicaments have hitherto failed to accomplish."

"Superior to digitalis, strophanthus, scoparius, squills, acetate of potash and the hydragogue cathartics all put together."

"The only known relief [how modest!] and permanent cure of dropsies."

"Unrivalled heart tonic." "The most powerful agent known."

Any one wishing to use squill should take the trouble to acquaint himself with the results obtained by competent and independent observers, and not rely on it in eclampsia, septicemia, "vices of civilization," all forms of neurasthenia, as "an active eliminator of uric acid in rheumatism," in hepatic cirrhosis, dyspepsia, asthma, obesity, cystitis (!), lumbago, exophthalmic goiter, etc.

He should also learn the contra-indications to the use of squill, deducible from the fact that it causes vasoconstriction and raises the blood-pressure (prohibiting its use in Bright's disease and arteriosclerosis), and that it produces marked gastric irritation, consequently nausea and depression, that it is a very toxic agent, and that the dangers of cumulative action must be borne in mind. In respect to these the advertisements of the Anasarcin people are little short of criminal, for these state:

"Safe in administration." "Non-toxic as ordinarily administered." "Will nauseate some persons," but "the reaction from the temporary depression is prompt." "In Bright's disease, both the interstitial and parenchymatous forms of nephritis, acute or chronic, no remedy . . . to equal it in efficacy." "Without increasing the debility of the patient or interfering with nutrition by producing loss of appetite. . . ." "This treatment is to be continued without cessation until all symptoms of dropsy have disappeared."

Physicians who are inclined to disregard this warning, and who follow the advice of the Anasarcin people, should remember that their patients—or their friends—will put the blame for the results, which are bound to follow sooner or later, on the prescribers, and not on the deceptive advertisements of the Anasarcin Chemical Company.

There is another little matter which throws an illuminating side-light on the Anasarcin Company. They take every occasion to say that Anasarcin is "not offered to the laity," "never sold to the laity," etc.; but witness the following, which was found in the *Retail Druggist* of May, 1906, p. 179. The italics are ours.

CURE FOR DROPSY.

"As every druggist knows, dropsy has been one of the incurable diseases when caused either from heart, liver or kidney trouble. A *pharmacist* in Winchester, Tenn., *has worked out a remedy* called Anasarcin, which he is exploiting to the physicians, and his remedy is showing itself as possessing great merit. Several hopeless cases have been treated as a last resort by Anasarcin and in a very short time the patient has shown marked improvement and has effected permanent cures.

"The result of the cases as handled by the physician with the aid of Anasarcin has been so easily and quickly cured that physicians of Tennessee and the southern states are high in their praises of the remedy. The company which now manufactures and sells it is known as the Anasarcin Chemical Co., of Winchester, Tenn. *Any druggist who knows of a case of dropsy would be conferring a favor on the patient and mankind in general by telling the party or his physician of the southern pharmacist,* and we have no doubt but what a prompt relief and permanent cure would be affected." [Probably means effected.—ED.]

Anedemin

If we are disposed to doubt the vaunted scientific ability of the Anasarcin Company, we are forced to admire their business methods, at least, if there is any truth in the saying that imitation is the seal of success. Anasarcin has had this rather undesirable compliment paid to it, for its native town of Winchester has given birth to another remedy, Anedemin, which looks like a fair-haired twin brother. The Anedemin Company has adopted Anasarcin almost bodily. The name—"opposed to edema"—is about as close as the copyright laws permit. The pharmacologic and therapeutic claims agree almost literally with those of Anasarcin and contain the same exaggerations and dangerous misstatements. There is the same emphasis on free purgation with Epsom salts. The dose is the same. Both are marketed at



Laboratory and Warehouse of the Anasarcin Chemical Company,
Winchester, Tenn.

\$2.00 for a box of 100—only the Anedemin people have adopted the prize package device of throwing in 20 or 30 tablets extra, for good measure, and give a discount of 75 cents or so.

In short, the Anedemin Company has appropriated all of Anasarcin which they considered of any value. It is, therefore, rather suggestive that they drew the line at the formula. Anasarcin is said to contain squill, sambucus and oxydendron; Anedemin discards the oxydendron and reinforces the squill with strophanthus and apocynum. Notwithstanding this material change in composition, the actions are described as identical; this is again rather suggestive.

The Anedemin Company, like the Anasarcin Company, scorns crude drugs and claims to use only the isolated prin-

ciples. It was saved the trouble of discovering active principles for strophanthus and apocynum, for these are known; but it managed to find some scope for its inventive genius, "both drugs being so chemically treated and disposed, as to absolutely eliminate all objectionable and disagreeable properties and effects" so as to convert a vasoconstrictor action into a dilator action; so as to render them non-toxic and non-cumulative; so as to deprive apocynum of its characteristic nauseant effect. Who can say that the days of miracles are past? Even this is not the limit of Anedemin alchemy; if we are to believe their claims, they have succeeded in forcing strophanthin, apocynum, scillain, etc., to combine with each other: "It is a *definite chemical compound* of the active principles" of these drugs! This makes the achievements of Emil Fischer in synthesizing sugars and proteids appear as mere child's play.

Since the formulas were completed, however, clinical reports have been numerous enough—almost too numerous, if we are to believe them. Anedemin has been on the market for less than three years; the circulars emphasize that testimonials and endorsements are not solicited. Nevertheless, we are told that it is "endorsed by over fifty thousand clinicians throughout the United States." Since the total number of physicians in the United States and Canada is only about 128,000, this means that nearly every second physician has endorsed Anedemin. The Anasarcin Company solicits endorsements and they seem to do the larger business. Hence the majority of physicians of the United States must have written an endorsement of either Amedemin or Anasarcin, or both. Or is this statement another "invention"? It is a little peculiar that nearly all the endorsements come from small towns in sparsely settled districts; practically none from the centers of population. Does this mean that dropsy is more common in the rural communities than in the cities?

THE INVENTORS OF ANASARCIN AND ANEDEMINE

Even the newspapers, when they tax our credulity with pretended scientific "discoveries," feel the moral obligation of justifying themselves by telling us something of the personality and experience of the discoverers. We may ask, therefore, who are these expert pharmaceutic and synthetic chemists, these manufacturers of active principles, these skilled clinicians of wide experience, who have "intelligently built up the formula by wide application"? What are we told of these men who ask us to believe, on their mere assurance, in miracles and feats of magic; who tell us that they have converted neutral principles into alkaloids, that they have effected definite chemical compounds between these neutral principles, that they have discovered principles that do not exist, that they have changed the actions

of these principles to suit their wishes, that, in short, they have reversed the laws of Nature?

These companies are located in Winchester, Tenn., a town of about 1,500 inhabitants, situated in an agricultural country. The town boasts of neither scientific schools, colleges, universities nor laboratories. The Anasarcin Company was organized in 1902, the incorporators and directors being Dr. John W. Grisard and his sons, Dr. John P. Grisard, B. A. Grisard, and A. F. Grisard, and Will E. Walker, all of Winchester. Dr. John W. Grisard seems to be the originator and promoter of Anasarcin. W. E. Walker is an insurance solicitor of Winchester and is not actively identified with the business. We are informed that he owns but a single share of stock having a face value of \$100, and that he was added to the company in order to comply with the laws of Tennessee, which require five directors for any corporation. Dr. John W. Grisard, the father, has practically retired, but still has a general supervising interest in the business. There is no regularly licensed pharmacist or chemist connected with the company. The office is in the rear of a jewelry store in the business part of Winchester and on the second floor above. According to our reporter, an office force of about ten stenographers and clerks handles the correspondence and labels and sends out the preparation which is made in a crude frame building located on a side street and without laboratory equipment. According to our reporter, the work is done by the Grisards and a colored man.

The Anedemin Chemical Company was organized in 1905 with a capital of \$20,000, the incorporators and directors being Dr. T. B. Anderton, Floyd Estill, J. J. Lynch, J. M. Littleton and I. G. Phillips, all residents of Winchester, and all lawyers with the exception of Dr. T. B. Anderton. A Mr. Gordon, a clerical employee of the company, is reported to have active charge of the business, to prepare the medicine and conduct the correspondence. The office headquarters, laboratory and complete outfit of the Anedemin Company comprises two rooms over the law office of Estill & Littleton. No one connected with the company is a regularly licensed pharmacist or graduate chemist.

Of the six physicians located in Winchester, three (50 per cent.) are engaged in the dropsical cure business. Poor Winchester! Aside from their connection with these two nostrums, these physicians may be estimable and worthy citizens, but where, pray, did they find the extensive clinical facilities and pharmaceutical knowledge necessary for their wonderful and epoch-making discovery? Were they aided in their scientific work by the four lawyers connected with

the Anedemin Company or by the insurance solicitor who is a director of the Anasarcin Company? Did the 1,500 inhabitants of the town furnish the vast clinical material necessary for discovering and working out the formulas of these two preparations? If so, we fear that dropsical affections are much more prevalent in Winchester than in any other known spot on the globe. This matter should be investigated. Without doubt the vital statistics of Franklin County would be most interesting and we commend them to the special attention of the medical profession in Tennessee.—(*From The Journal A. M. A., May 4 and 11, 1907.*)

MAIGNEN ANTISEPTIC POWDER

Report of the Council on Pharmacy and Chemistry

The report which appears below was submitted by a referee and after adoption by the Council was sent to the manufacturer for comment, in accordance with the Council's regular procedure in such cases. The manufacturer's comments were transmitted to a second referee, who reported that after a careful consideration of the manufacturer's reply he saw no valid reason for a modification of the report. The referee also reported that a visit to the Maignen Institute further served to convince him of the viciousness of the treatment as given and that the records made by the persons in the employ of the institute were too inadequate to serve as clinical evidence. On the referee's recommendation, the report as originally adopted was reendorsed by the Council and authorized for publication.

W. A. PUCKNER, Secretary.

Maignen Antiseptic Powder is marketed by the "Maignen Institute for the Study of Bacterial Diseases," Philadelphia. It is claimed to be a mixture of calcium hydroxid, sodium carbonate, aluminum sulphate and boric acid, but no statement as to the amount of the several constituents is furnished. Its action depends on the sodium hydroxid which is formed when the powder is treated with water, 1 Gm. of the powder as now submitted to the Council yielding 0.32 Gm. of sodium hydroxid (NaOH) and a specimen obtained a year ago yielding 0.28 Gm. Its promiscuous use is recommended both to physicians and to the public with claims which are extravagant, preposterous and even dangerous.

A pamphlet, clearly intended for the laity, entitled "What Is Catarrh?" gives direction for the "sterilization" of the nose, throat, stomach, lungs, eyes, gums, mouth and the genito-urinary tract. The following, taken from this pamphlet, illustrates the absurdity of the claims made for Maignen Antiseptic Powder:

"STERILIZATION OF THE STOMACH

"TAKE of the Maignen Antiseptic Powder half the quantity raised on a dime, scant.

"ADD to a tumbler of water, preferably warm, and stir.

"DRINK SLOWLY.

"THIS IS WHAT MAY HAPPEN:

"1). Belching may be the first indication of the sterilization of the stomach.

"2). The excess of acidity is corrected.

"3). The fermentation is stopped.

"4). The sterilization extends to the Intestinal Tract.

"5). The bowels are regulated without purgation.

"6). The whole metabolic process is improved.

"WHEN AND HOW OFTEN TO DRINK THE ANTISEPTIC SOLUTION.

"a). For Indigestion, whenever distressed, before or after meals.

"b). For Constipation, half an hour before breakfast or last thing at night.

"c). For Gastro-Intestinal troubles, such as Typhoid Fever, Dysentery and Cholera, which are the most serious forms of catarrhal inflammation, take half a tumbler or a whole tumbler of hot water with half the quantity of Powder raised on a dime every hour, and between times a glass of generous [sic] wine.

"REMARKS

"The sterilization recommended here is a plain disinfecting process which does not interfere with medical treatment. It is, on the contrary, of great assistance to it.

"It has been found very effective in breaking up the cigarette habit. It does away with the craving by removing the morbid irritation of the mucous membrane."

Eighty-eight disorders are listed in a pamphlet entitled "Antiseptic Therapeutics" all of which are reported as having been treated with success. The dangerous character of the Maignen "sterilization" propaganda is illustrated by a pamphlet "First Aid to Baby-Sick" and by the recommendation on the trade package:

"To prevent Blood Poisoning, Lockjaw, Hydrophobia and Infectious Diseases."

The legend on the trade package and the advertising matter contained in it are likely to lead the public to place dependence on a weak sodium hydroxid solution as a means of preventing blood-poison, lockjaw, hydrophobia and infectious diseases. The pamphlet "First Aid to Baby-Sick" recommends its use in sore eyes, teething and sore mouth, sore throat, running ears, running nose, sore chest, summer complaint, skin troubles and infection after vaccination; if any trust is put in these claims, they are bound to lead to the sacrifice of many infants through neglect of proper treatment.

Patent No. 1,086,339 has been granted on this powder to P. J. A. Maignen of Philadelphia by the U. S. patent office on the following specification of claim made in the application:

"1. A process for destroying microorganisms on living tissue, without injuring the latter . . . whereby the growth of such organisms is inhibited and their substance dissolved without deleterious effect upon contiguous healthy tissue."

With brazen assurance this grant has been twisted by the unscrupulous promoters into a government endorsement of the preparation. It, of course, means nothing of the sort, as, no doubt, in accordance with legal routine the patent was granted without any investigation by the patent office to determine the effectiveness of the powder for the purpose claimed.

In view of the dangerous, unwarranted and absurd claims made for Maignen Antiseptic Powder the referee recommends that it be refused recognition, and that the Council declare its agreement with views expressed in the article "Maignen Pulv." published in *THE JOURNAL*, Feb. 15, 1913, p. 537, particularly the following:

"The germicidal powers of strong alkalies have long been known, but the inconvenience of their application to tissues and mucous membranes has prevented their use. That they will be of service when sufficiently diluted not to irritate the tissues is improbable, for the antiseptic power of such solution is slight and the disinfectant value practically nil."

Because the Maignen Institute has twisted the granting of U. S. patent No. 1,086,339 into a quasi-endorsement of the claims made for Maignen Antiseptic Powder it is recommended that a copy of this report be sent to the Commissioner of Patents as a protest against the present law, which authorizes the granting of patents on unproved and improbable medical claims.—(*From The Journal A. M. A.*, Nov. 14, 1914.)

TYREE'S ANTISEPTIC POWDER*

Report of the Council on Pharmacy and Chemistry with Comments

Tyree's antiseptic powder was assigned for examination to a subcommittee of the Council, which made the following report:

To the Council on Pharmacy and Chemistry:—Your subcommittee, to whom was assigned Tyree's Pulv. Antiseptic Comp., marketed by J. S. Tyree, Washington, D. C., reports as follows: The label on the package states: "This preparation is a scientific combination of borate of sodium, alumen, carbolic acid, glycerin and the crystallized principles of thyme, eucalyptus, gaultheria and mentha, in the form of a powder," etc.

The statement that the powder contains the crystalline principles of thyme, eucalyptus, gaultheria and mentha is vague and misleading, since the chief medical constituents of eucalyptus and gaultheria are liquids, but it tends to convey the impression that the powder contains the essential constituents of these drugs, namely, thymol, oil of eucalyptus or eucalyptol, oil of wintergreen, or methyl salicylate, and menthol.

* See also Tyree's Antiseptic Powder, p. 404.

The literature supplied to physicians *claims* its composition to be: "Parts, sod. bor., 50; alumen, 50; ac. carbol., 5; glycerin, 5; the cryst. principles of thyme, 5; eucalyptus, 5; gaultheria, 5, and mentha, 5."

The composition, therefore, might be expressed as follows:

Sodium borate (borax).....	50 parts, or 38.46 per cent.
Alum	50 parts, or 38.46 per cent.
Phenol (carbolic acid).....	5 parts, or 3.85 per cent.
Glycerin	5 parts, or 3.85 per cent.
Thymol	5 parts, or 3.85 per cent.
Oil of eucalyptus or eucalyptol.....	5 parts, or 3.85 per cent.
Oil of gaultheria (or methyl salicylate)....	5 parts, or 3.85 per cent.
Menthol	5 parts, or 3.85 per cent.

Analysis of specimens purchased from different sources in the open market were made under our direction. The reports of the chemists show that Tyree's antiseptic powder contains no borax, or mere traces only, and that it contains no alum, or mere traces only. Instead, the analyses show that boric acid and zinc sulphate are the essential constituents. The amounts of carbolic acid, thymol, menthol, etc., contained in the powder, if present, were far below the quantities indicated by the formula. The presence of glycerin could not be demonstrated, and, if present, the amount must be very small.

One chemist reports: The result of analysis shows that different samples differ slightly in composition, but that the following indicates the average composition of the product:

	Per Cent.
Zinc sulphate, anhydrous.....	15.56
Boric acid.....	81.26
Volatile matter at 100° C. for four hours.....	0.45

The undetermined portion consists of salicylic acid, carbolic acid, menthol and eucalyptol; possibly other antiseptic agents may be present in very minute quantities.

From the above findings we conclude that Tyree's antiseptic powder is a mixture of boric acid and dried zinc sulphate and antiseptic bodies, such as menthol, salicylic acid and carbolic acid, eucalyptol, etc. From this it can be readily seen that the label, which is supposed to set forth the composition of Tyree's antiseptic powder, is not in accord with the facts. The powder does not contain either borate of sodium or alum, and the presence of glycerin could not be established. The antiseptic agents, exclusive of the boric acid, are present only in small amounts.

The report of another analysis concludes as follows:

It evidently contains less than the amount stated of the principles of thyme, eucalyptus, wintergreen and mint. It also contains a very small amount indeed of carbolic acid, much less than that stated. We have been unable to identify certainly the presence of glycerin, and it is doubtful if it be present.

From the result of the analysis we feel confident that the preparation is to all intents and purposes a mixture of boric acid and sulphate of zinc.

The carbolic acid, thyme, eucalyptus, wintergreen, etc., if present, are present only in sufficient amount to give the compound a satisfactory odor.

In view of the fact that J. S. Tyree has given wide publicity to a formula which the preceding report has shown to be a deliberate misrepresentation of facts, it is recommended that the article be refused recognition by the Council on Pharmacy and Chemistry, and that this report be published in *THE JOURNAL* of the American Medical Association.

The recommendation of the subcommittee was adopted by the Council in accordance with which the report is published.

W. A. PUCKNER, Secretary.

Mr. Tyree, in a letter to Dr. Simmons (which he states he writes at the request of Dr. Kebler of the Drug Laboratory of the Department of Agriculture, though he is under no moral or financial obligation to do so), says that it has been his intention to inform the medical profession of his reasons for changing the formula of Tyree's Antiseptic Powder from an alum and borax base to a boracic acid and zinc base. He states that this change was made at the suggestion of prominent physicians connected with hospital clinics on nose and throat, venereal and other conditions and that he has had in contemplation the omission from the label of the various conditions to which the preparation is applicable.

Mr. Tyree, it will be seen, assumes the right to sell to physicians a preparation with a descriptive formula which he acknowledges is false, and he presumes to use his own pleasure as to the time when he will inform them of its true composition.

Mr. Tyree does not state when he changed the formula. We do not know whether it was a year ago, five years ago or ten years ago, but we do know that the package which was used in making the first analysis was purchased as early as last February, and the first chemist's report was submitted to the Council March 5, 1906. On April 4 Mr. Tyree was notified by the Council that the composition of Tyree's Antiseptic Powder did not correspond to the formula published by him.

Whether or not Mr. Tyree is justified in offering our profession a preparation as composed chiefly of borax and alum when in reality it is chiefly composed of boric acid and zinc sulphate, we leave physicians to judge.

Discrepancies Between Facts and Claims—Unfortunate Attempts of Mr. Tyree at Explanation

A report from the Council on Pharmacy and Chemistry on Tyree's Antiseptic Powder appeared in *THE JOURNAL*, Oct. 20, 1906. This showed that the preparation, advertised as a "scientific combination of borate of sodium, alumen, carbolic acid, glycerin and the crystallized principles of thyme, eucalyptus, gaultheria and mentha, in the form of a powder." was essentially a mixture of boric acid and sulphate of zinc—approximately four-fifths of the former to one-fifth of the

latter. "The carbolic acid, thyme, eucalyptus, wintergreen, etc., if present, are present only in sufficient amount to give the compound a satisfactory odor." As will be remembered, in the correspondence published at that time, Mr. Tyree attempted to explain the discrepancies between his statements and the proved facts by intimating that he had recently changed the formula, and that it was his intention "on or about the first of February to state to the medical profession his reasons for changing the formula," and that the change had been made "a short time ago, at the suggestion of several prominent gentlemen." Since that time, through circulars and other advertisements, Mr. Tyree has attempted to explain the matter in various ways. In his latest circular letter he seems to make a deliberate attempt to mislead our profession and to misrepresent facts to a degree that makes it almost impossible to believe that the circular came from a man who claims to be honorable.

First, however, we shall take this opportunity to publish some matter which we have had in reserve since the first exposé was made last October. When it was realized that Mr. Tyree intended to defend himself by claiming that a change had recently been made in the powder, we took occasion to try to secure some of the preparation that had been on the market for a long time. In this we succeeded very well. From a Chicago druggist one package was bought which had been in the store at least since July, 1902—how much longer is not known. The druggist from whom the powder was obtained bought the drug store in July, 1902, and this powder was on hand at that time, none having been bought since. This particular powder was analyzed by a chemist, who found the composition practically the same as that given in the Council's report, this chemist estimating that it contained approximately 81 per cent. boric acid and 14 per cent. anhydrous zinc sulphate. Bearing in mind that for at least four years and ten months Tyree's Powder has been essentially the same as it is today, this letter is very interesting: (The comments in brackets are, of course, ours.)

"J. S. TYREE,
"CHEMIST,
"WASHINGTON, D. C.

"April 16, 1907.

"Dr. _____,
"_____,"

"My Dear Sir:—Doctors and medical publications of extreme and prejudicial minds often hold and express opinions in honorable faith, but like all critics, they are not always familiar with the conditions composing their opinions, and are often given to expressing them without knowledge of the true motives and facts in the case.

"If you will read an article that appeared in one of the medical weeklies some time ago [THE JOURNAL of the American Medical Association, of course] and which has been copied by several of its offsprings [not many we regret to say] relating to Tyree's Antiseptic Powder, you will see that I had previously informed the editor as well as his council of investigators, that at the suggestion of prominent physicians, extensive clinical experimenting [sic] were being made with some slight [! ! !] changes in my powder, the object being to develop and extend its usefulness in new lines [It had already been recommended for about everything¹] and at the same time make it more acceptable to the general run of the profession. I also notified this editor that these investigations would not be completed until the first of the present year, after which time these slight [! ! !] changes in the formula of Tyree's Powder would be announced. [It is now the middle of May; when and where were the changes announced?²]

"There is nothing new, startling or dangerous in such changes in formulas. The Pharmacopeias and national books of authority are continuously improving their formulas. It is the same with every preparation on the market. [Mr. Tyree, as a nostrum maker, is in a position to know. His plea evidently is: "I am no worse than others."] The apparent difficulty in my case is caused by my exceptional frankness ["exceptional frankness" is good under the circumstances] with the profession in telling them [when and where?] about this improvement before I was ready to announce full details and particulars, or place my improved [sic] powder on the market.

"Yours very truly,

"J. S. TYREE."

For years Mr. Tyree has been misleading physicians by making false statements regarding the composition of his powder and regarding its value as a therapeutic agent. When exposed he tries to defend himself and his business by statements and excuses that are worthy of a schoolboy trying to get out of a bad scrape. We would respectfully suggest

1. From the circular accompanying a package bought over a year ago, we find the powder recommended for the following conditions: "For Leucorrhea, Gonorrhea, Vaginitis, Pruritus, Ulcerated conditions of the mucus membrane. . . . Scrofulous, Syphilitic and Varicose Ulcers. . . . for Spraying the Nose and Throat, . . . for immediate deodorizing and disinfecting . . . for prickly heat, poison oak, squamous eczema and other conditions of similar nature. . . . As a deodorant and prophylactic in dental work, . . . for disinfecting offensive cavities. . . . for profuse and offensive perspiration, swelling, soreness and burning of the body and feet. . . . As a delightful toilet preparation after the bath and shaving."

2. Last January the national Food and Drugs Act went into effect; one of its provisions is that the label must not lie. This is not the exact verbiage, but it means the same thing. So, instead of repeating the old false statements, the new label of Tyree's antiseptic powder contains nothing whatever about the composition; the law does not require that it should—unless the preparation contains certain specified drugs. Why is the formula omitted?

to him that he either take his wonderful powder off the market, or—which would probably amount to the same thing—tell the truth, and the whole truth, about it.—*From The Journal A. M. A., May 18, 1907.*)

APERGOLS *

Abstract of Report of the Council on Pharmacy and Chemistry

Apergols, put out by H. K. Wampole Co., Inc., is alleged to be a "Uterine Stimulant." Apergols is apparently an inversion of the name Ergoapiol and the preparation appears to have essentially the same formula, namely:

Apiol	5	min.
Oil Savine	$\frac{1}{2}$	min.
Ergotin	1	gr.
Alain	$\frac{1}{8}$	gr.
Aromatics		q. s.

As in Ergoapiol, the constituent referred to in the formula as "Apiol" appears to be oleoresin of parsley-seed instead of the definite substance apiol described in New and Nonofficial Remedies. In general the claims made for Apergols are the same as those made for Ergoapiol (see p. 82). The Council refused admission to Apergols because they are advertised indirectly to the public, because of unwarranted therapeutic claims, because of the non-descriptive name and because the product is unscientific.—(*From The Journal A. M. A., Dec. 12, 1914.*)

ASEPTIKONS

Report of the Council on Pharmacy and Chemistry

Aseptikons are vaginal suppositories sold by the Chinosol Co. of New York. Each suppository is said to contain:

Ac. Salicylici	2	gr.
Ac. Borici	10	gr.
Quin. purae (Alkal.)	1	gr.
Chinosol	2	gr.
But. Cacao	60	gr.

The following claims appear in advertisements:

"These suppositories are indicated in cervicitis, leucorrhea, specific and non-specific vulvo-vaginitis and in all cases where complete vaginal antiseptics is desired."

"Non Toxic, Non Irritating; No Damage to Membranes. Yet a More Powerful Antiseptic than Bichloride."

The Council decided that the foregoing claims in the absence of evidence must be held exaggerated and likely to mislead, and also that the claim "Stronger than Bichloride" which appears on the box is misleading.

* For abstract of report on Ergoapiol see p. 82; for the unabridged report of the Council's action on Apergols, see Reports Council Pharm. and Chem., 1914, p. 64.

The position of the Council is that "In the case of pharmaceutical preparations or mixtures the trade name must be so framed as to indicate the most potent ingredients." The name Aseptikons does not give any indication of the ingredients of the product.

The Council holds that "The combination of two or more remedies in a mixture must be considered contrary to scientific medicine unless a distinct reason exists for such combination." No evidence has been submitted to establish the value of the combination in Aseptikons.

On the basis of the evidence submitted the Council voted that Aseptikons be refused recognition because unwarranted and misleading therapeutic claims are made, because the name does not indicate its potent constituents, and because the combination of two or more remedies in a mixture is considered contrary to scientific medicine unless a distinct reason exists for such combination.—(*From The Journal A. M. A., Nov. 14, 1914.*)

BETUL-OL *

Abstract of Report of the Council on Pharmacy and Chemistry

Betul-ol (E. Fougere and Co., New York) is a methyl salicylate preparation advertised to physicians (and indirectly to the public) as an external analgesic and anti-rheumatic. The statements regarding its composition are vague, misleading and, as shown by examination in the Chemical Laboratory of the American Medical Association, untrue. The therapeutic claims are based on discarded theories. Although the alleged superiority of natural over synthetic salicylates has been disproved, physicians are urged to use Betul-ol because it contains, or is alleged to contain, a natural salicylate. Another discarded theory is pressed into service in the claim that the chloral in the mixture will be absorbed and converted into chloroform in the blood. The recommendations for the use of Betul-ol in rheumatism are likely to lead the public to the self-treatment of rheumatism. In view of the serious complications and sequelae of rheumatic fever this recommendation is utterly unjustifiable and a danger to public health—even if the external application of this mixture in uncertain doses were as effective as a proper internal use of salicylates—a theory contrary to experience and unsupported by adequate evidence.

The Council therefore refused recognition to Betul-ol.—(*From The Journal A. M. A., Dec. 12, 1914.*)

* For the unabridged report of the Council's action on Betul-ol, see Reports Council Pharm. and Chem., 1914, p. 62.

PEACOCK'S BROMIDES AND CHIONIA

Reports of the Council on Pharmacy and Chemistry

The Council has authorized publication of the following reports on Peacock's Bromides and Chionia, sold by the Peacock Chemical Company, St. Louis.

W. A. PUCKNER, Secretary.

PEACOCK'S BROMIDES

This is another nostrum of the ordinary mixture type. Of the various statements concerning composition furnished by the company, the following gives as much information as any:

"In Peacock's Bromides it is designed to unite fifteen grains of the purest bromides of Potassium, Sodium, Ammonium, Calcium and Lithium, in such proportion as to insure the bromine equivalent of potassium bromide. Each fluid drachm about equals, in medicinal strength, fifteen grains of potassium bromide."

The label on the trade package indicates the presence of 10 per cent. of alcohol. It will be observed that the proportions of the different bromids are not stated. Hence, the assertion of the Peacock Chemical Company that "there is nothing secret in this compound" cannot be true. A physician prescribing it cannot know how much of each ingredient he is giving; it may be $14\frac{1}{2}$ grains of potassium bromid and $\frac{1}{8}$ grain each of sodium, ammonium, calcium and lithium bromid, or any other of an enormous number of possible permutations of the proportions.

While the theoretical basis of bromid medication is not yet fully settled, the weight of the best pharmacologic authority and clinical experience is decidedly against the dogmatic claim of the Peacock Chemical Company that "the best result is obtained by prescribing a combination of bromides." And if there were any advantage in prescribing such a combination, the physician ought to regulate the proportions.

The following quotations are from the advertising matter:

"Being uniform in purity and therapeutic power, it can be relied upon to produce clinical results which it is believed cannot be obtained from the use of commercial bromide substitutes."

"The purity, quality and constant uniformity of this high grade product have long made it a standard bromide preparation."

These claims are unfounded. The analyses published in the concern's own advertising "literature" show a variation of 8 per cent., in the bromid content, which certainly indicates a sufficient lack of uniformity.

Again quoting:

"In order to insure the best results the bromides must be pure, i. e., free from alkalis and almost free from chlorides. The U. S. P. allows three per cent. of chlorides. Peacock's Bromides contains the least possible amount of this impurity. Bromism is therefore less frequent in those cases in which this preparation is employed."

In view of the claim of low chlorid content, it is interesting to note that the analyses above referred to show that the chlorid content is actually higher than that of some other bromid preparations on the market.

The claim of merit on the ground of freedom from chlorids is, of course, absurd, and must be regarded as an attempt to play upon the credulity of the doctor. As a matter of fact, the average individual takes with his food many times the amount of chlorid he could possibly take in contaminated bromid. The 10 per cent. of alcohol would undoubtedly have a greater disturbing influence on the bromid action than the amount of chlorid that might be present in any bromid on the market.

Then we have the statement that, owing to this freedom from chlorids:

"Bromism is therefore less in those cases in which the preparation is employed."

Sodium chlorid, even as an impurity, would retard rather than favor the development of bromism; sodium chlorid is even used as an antidote in bromid poisoning.

The therapeutic claims lay stress on the value of the bromids in sleeplessness, epilepsy, sexual excitement, tetanus, infantile convulsions, chorea, delirium tremens, the climacteric, migraine, headache due to pelvic conditions, ovarian neuralgia; etc. These and other claims, while too vague to be branded as falsehoods, are misleading and not in accordance with modern teaching or practice; the latter recognize the limitations of bromid therapy as well as its scope and advantages. For instance, in epilepsy the company asserts that:

"Large doses must be given if we expect to control the convulsions. We are to be guided by the frequency and the severity of the seizures, the saturation of the system by bromides and by the age of the patient. The rule is 'large doses for long periods but with occasional periodic monthly or quarterly omissions.' When we have succeeded in controlling the convulsions in so far as greatly diminishing the frequency and severity of the attacks we may then attempt to decrease the dose, but the results must be carefully watched. Increase in frequency of convulsive seizures is a sign that the bromides must again be pushed as before."

The best modern clinical teaching concerning the treatment of epilepsy is that bromids should be avoided except as a last resort. Bromids do not cure, and the amount necessary to control the convulsions may produce a degree of mental hebetude that is a greater evil than the disease itself.

It is recommended that the preparation be held ineligible for admission to N. N. R., because of its conflict with Rules 1, 4, 6 and 10 of the Council, and that this report be published.

CHIONIA

Chionia, according to the statement of the Peacock Chemical Company, which exploits the product, contains 19 per cent. alcohol and is "A Preparation of *Chionanthus Virginica*."¹

This preparation is advertised particularly as "a potent hepatic stimulant" and special claims are made for it in various disturbances of the liver:

"Chionia is very well adapted in the treatment of hepatic congestion owing to its specific action in depleting the portal circulation."

In passive congestion of the liver, the manufacturers would have us believe

". . . we have a drug in Chionia that will stimulate the circulation of the blood and lymphatics of the liver as well as stimulate its physiological activities and instead of the patient vomiting the blood an internal depletion of the liver occurs."

". . . in cases of simple jaundice due to circulatory (congestive) changes in the liver, Chionia is the drug 'par excellence' that will rapidly cause a disappearance of this symptom."

As a prophylactic against eclampsia, if a history of torpidity of the liver is obtained:

"CHIONIA should be used during the major portion of child-bearing period because it acts directly on the liver stimulating its functional activity."

Chionanthus virginica has never been shown to have the slightest pharmacologic activity and no evidence is presented that its offspring, Chionia, has any therapeutic value whatever in any disturbance of the liver. The promoters themselves indicate a lack of faith in their own preparation, for they advise the use of old and efficient forms of treatment along with Chionia—heart tonics and laxatives in passive congestion of the liver, mercurial purge or podophyllin and sodium phosphate in "biliousness," and quinin in malaria. Finally, with delightful English and elaborate insouciance, they advise in the treatment of eclampsia:

"In all cases the uterus should be emptied as quick as possible. (Version of Cæsarian Section.)"

The physician who prescribes Chionia promotes a fraud.

The Council held Chionia ineligible for admission to N. N. R.

1. Of *Chionanthus Virginica* or fringe-tree, the Council on Pharmacy and Chemistry in its 1912 report on "Some Unimportant Drugs" said: "The drug is much used by eclectics and homeopaths, especially as a depurant in hepatic and syphilitic disorders . . . The claims for this remedy are not supported by experimental evidence and clinical reports of its use fail to show indications of discriminating critical observation. It is not noticed by most pharmacologic authorities."

[EDITORIAL COMMENT: In Peacock's Bromides and Chionia the Peacock Chemical Company has, for a third of a century, been foisting on the medical profession nostrums composed of drugs that are easily combined in any proportion that the physician may want to prescribe. The company has been inflicting on the unthinking physician pseudo-scientific rubbish in the form of advertising literature that should long ago have been regarded as an insult to the intelligence of the medical profession. The following medical journals are carrying advertisements of Peacock's Bromides and Chionia:

Alienist and Neurologist
American Journal of Surgery
American Medicine
Archives of Pediatrics
Atlanta Journal-Record of Medicine
Buffalo Medical Journal
Charlotte Medical Journal
Chicago Medical Recorder
Denver Medical Times and Utah Medical Journal
Eclectic Medical Journal
Ellingwood's Therapist
Indianapolis Medical Journal
International Journal of Surgery
Lancet-Clinic
Louisville Monthly Journal of Medicine and Surgery
Maryland Medical Journal
Medical Brief
Medical Fortnightly

Medical Herald
Medical Record
Medical Review of Reviews
Medical Sentinel
Medical Standard
Medical Summary
Medical Times
Medical World
Nashville Journal of Medicine and Surgery
New Orleans Medical and Surgical Journal
New York Medical Journal
Pacific Medical Journal
Southern Practitioner
Texas Medical Journal
Texas Medical News
Therapeutic Gazette
Wisconsin Medical Recorder
Woman's Medical Journal]
 —(From *The Journal A. M. A.*, April 3, 1915.)

BROMIDIA

Report of the Council on Pharmacy and Chemistry

The following report was submitted to the Council by a member of its Committee on Therapeutics, with the recommendation that publication be authorized. This recommendation was adopted.

W. A. PUCKNER, Secretary.

Bromidia (Battle & Co., St. Louis) at once suggests bromids; yet Bromidia is essentially a chloral rather than a bromid preparation. This nostrum illustrates the need of the provision in the Council's Rule 8 under which recognition is refused pharmaceutical mixtures whose names do not indicate their most potent ingredients. While the chloral content of Bromidia has been given considerable publicity, yet the preparation is used both by physicians and by the public without due consideration of its potent ingredient. This fact is attested not only by the fatal results which have followed its use but also by the many reports of habit formation. As long ago as in 1887 a fatal case of poisoning was reported¹ to the medical society of the District of Columbia

1. THE JOURNAL A. M. A., July 9, 1887, p. 55.

due to an overdose taken by a Bromidia addict. The physician who reported this case also gave his experience with another patient who had the Bromidia habit. In the discussion of the paper a number of cases were reported by others present in which Bromidia had been taken without a physician's advice and with more or less grave symptoms of poisoning.

In the report of a death of one who had been a slave to Bromidia it was said:² "When the body was found, there were eleven one-ounce Bromidia bottles about the room or on his person. Nine were entirely empty and the other two were about half full. None of these bottles indicated that they had been purchased on a physician's prescription, only the druggist's label marked 'Bromidia' being on them."

Dr. Horatio C. Wood, Jr., gave³ a striking illustration of how preparations like Bromidia come to be used even by physicians without consideration of their constituents:

"Within an hour after his father, a Brooklyn physician, had given him a dose of bromid, H.G.P., a prodigal son, died yesterday at his father's home in Brooklyn. Two years ago, when he appeared to have sown his wild oats, the father made him superintendent of his country place, near Grants Mills, Delaware County. A week ago the son left his place, and at 1 o'clock yesterday morning appeared at his father's Brooklyn home. He was nervous, and at 9 a. m. begged for a sedative. 'I prescribed the usual quantity of bromidia,' the young man's father told a reporter. 'He was weak and had suffered from weak heart and kidney trouble for some time.'

"An hour later the father found the son dying and administered restoratives, but to no avail."

A circular, "The Advantages of Bromidia," makes it plain how physicians come to use a preparation like Bromidia without consideration of its potent constituent. In this circular the presence of chloral is at first frankly admitted, then it is suggested that in the combination the evil effects of chloral are completely eliminated and in the end the impression is left that Bromidia is practically innocuous. Thus at the beginning while arguing that Bromidia is better than extemporaneous preparations the chloral content is plainly acknowledged:

"In the untoward effects so frequently attending the use of extemporaneously prepared mixtures of chloral and the bromides, may be found the reason for BROMIDIA'S preference when the need for a hypnotic agent arises. Were it not for the well known disadvantages of these drugs which become still more marked with their continued use, there could be no special need for such a preparation as BROMIDIA (Battle), for the therapeutic powers of chloral and the bromides are among the most positive facts in medicine."

Again:

"It was to meet the growing professional demand for a combination of chloral and the bromides with their evil effects eliminated, that led to the manufacture of BROMIDIA (Battle)."

Then, suggesting the indiscriminate use of Bromidia—as an entity as Dr. Wood suggests—the claim is made that:

2. THE JOURNAL A. M. A., April 21, 1906, p. 1220.

3. THE JOURNAL A. M. A., April 21, 1906, p. 1220.

"... its constituents have been chosen with a view of enabling Bromidia to meet every requirement for an agent of its class."

"Owing to the exceptional purity of its component parts and its freedom from untoward effects when continued over long periods, this product will be found of the highest utility in epilepsy."

"... its action is that of chloral and the bromides minus their evil effects."

Finally Bromidia becomes a simple bromid preparation. Thus an advertisement reads:

"Bromidia's (Battle) Marked Sedative and Antispasmodic Qualities eminently fit it for the treatment of Maniacal Excitement, Epilepsy, Spasmodic Asthma, Convulsive Seizures of Reflex Origin, Sexual Neuroses, and other disorders attendant upon nervous irritability.

"Through its exhibition, the fullest therapeutic power of the bromides may be secured with a minimum of their evil effects; a feature of the greatest service when the necessity for continued treatment becomes necessary."

In addition to the general invitation to use Bromidia in epilepsy and various nervous disorders, a circular also recommends its use in typhoid, a recommendation, which, if followed, may turn the scale in favor of a fatal result. The circular states:

"As a soothing agent in the extreme restlessness and irritability of typhoid fever and other infectious diseases, BROMIDIA (Battle) is a therapeutic weapon of definite service. Relief of the headache of typhoid may also be secured through the use of BROMIDIA (Battle). By means of its administration for the above purposes, the patient's strength is conserved and as a result he is much better prepared to stand the force of the infection."

Particularly vicious is the recommendation that it be given to children. Thus, in a pamphlet entitled "Effective Drugs Effectively Combined":

"Another point of advantage to be found in bromidia is the ease with which it is borne by children. Owing to this tolerance, it is of distinct service in a considerable list of disorders of childhood. Thus, of course, employed with care and an understanding of its potency, bromidia has a field of usefulness in chorea, laryngismus stridulus, and whooping-cough. In other nervous disorders of childhood—those attending acute infections, for instance—bromidia is a definitely indicated therapeutic aid, owing to the soothing influence exerted by even a moderate dose and the absence of untoward effects. More specifically, the correcting influence of bromidia in the night-terrors of children may be mentioned."

Formerly advertisements asserted that each fluidram of Bromidia contained:

"Chloral hydrate	15 grains
"Potassium bromid	15 grains
"Extract of Cannabis indica.....	$\frac{1}{8}$ grain
"Extract of henbane	$\frac{1}{8}$ grain"

This formula also appears on the label of a sample package sent through the mails during 1914. A recent circular contains a somewhat different formula. Instead of "1/8 gr. each of gen. Imp. Ext. Cannabis Ind. and Hyoscyam." as was formerly claimed, each fluidram of Bromidia is now said, not to "contain" but to "represent," not the extracts but the far less potent drugs "Cannabis indica 1/8 grain, Hyoscyamus 1/8 grain," thus:

"Chloral hydrate	15 grains
"Pot. brom.	15 grains
"Cannabis indica	$\frac{1}{8}$ grain
"Hyoscyamus	$\frac{1}{8}$ grain"

Furnishing still greater variety, the labels on a recently purchased bottle of Bromidia, where under the Food and Drugs Act the presence of narcotic drugs must be declared, read:

"Alcohol 10 per cent., Chloral Hydrate, 91 grs. per ounce. Cannabis indica indeterminate in finished product."

"In the manufacture of BROMIDIA to each drachm of fluid used are added 15 grains of pure chloral hydrate and purified brom. pot., and $\frac{1}{8}$ grain each of gen. imp. ext. cannabis ind. and hyosciam."

These various statements as to the composition of Bromidia leave one very much "in the air." As chloral and potassium bromid are easily determined and since lying on the labels of widely exploited proprietaries has become somewhat risky recently, it is probable that the statements on the trade package are to be depended on and that each fluidram of Bromidia contains something like 12 grains each of chloral and potassium bromid and not 15 grains as the medical profession has been and is being told.

Pharmacists who have attempted to put up a nonproprietary preparation similar to or, more correctly, having the alleged composition of Bromidia have found it practically impossible to do so. The reason is that extract of cannabis indica is almost insoluble in a menstruum such as that found in Bromidia. The National Formulary, first edition, listed *Mistura Chlorali et Potassii Bromidi Composita* of which it was said: "Each fluidram contains 15 grains each of Chloral and of Bromid of Potassium, and $\frac{1}{8}$ grain each of Extract of Indian Cannabis and Extract of Hyoscyamus." In this the pharmacists attempted to incorporate the cannabis indica by using the tincture of the drug and suspending it by the addition of tincture of soap bark. In the present edition of the National Formulary, the preparation is made by triturating the extract of cannabis indica with pumice stone and then filtering the finished product. This gives an "elegant" preparation—but one from which the cannabis indica is filtered out! A sad commentary on the National Formulary. It should not be supposed, however, that the manufacturers of Bromidia have solved the problem that has baffled the pharmacists; not at all. Bromidia probably contains no more cannabis indica than does its National Formulary prototype. The statement on the present trade packages, that the amount of cannabis indica in Bromidia is "indeterminate," is but a tardy acknowledgment of the fact that the stuff has not, and never had, the amount of cannabis indica claimed for it for so many years.

The "indications" named on the Bromidia labels are, in common with nostrums of this type, but suggestions for self-drugging. They will appeal to the layman who has purchased, either by prescription or otherwise, an "original package" of Bromidia and who may imagine he suffers from "nervousness," "sleeplessness," "headache" or "neuralgia."

But while the manufacturers in their advertising matter have on the whole not disguised the presence of chloral so much as they have attempted to make it appear that the chloral has been robbed of its dangers—for all hypnotics if used thoughtlessly are dangerous—after all the name has created the false impression that Bromidia is a bromid preparation. It is because of this false impression carried by its name, that Bromidia came to be used indiscriminately by the profession and in the course of time still more indiscriminately and recklessly by the public. Bromidia is a vicious chloral preparation masquerading under a misleading name. That physicians have been impressed by the claims of its harmlessness and by the mystery connected with the formula is not a credit to the intelligence of our profession. There is no doubt but that physicians are responsible for the use and abuse of this chloral preparation by the public.

There is no scientific or rational excuse for a ready-made preparation of this sort. When chloral or a bromid is indicated the proper dose of each of these, if they are to be combined, should be determined for each patient. Potassium bromid and chloral hydrate both are readily soluble in water, syrup or elixirs and it is a simple matter to prescribe the required dose of chloral and of bromid dissolved in some aromatic water like cinnamon-water (*Aqua Cinnamomi*), in some syrup like syrup of orange (*Syrupus Aurantii*) or in an elixir like the aromatic elixir (*Elixir Aromaticum*) or adjuvant elixir (*Elixir Adjuvans*). If this mixture is prescribed thus the physician is alive, alike to the dangers and the limitations of the drugs; if it is prescribed under a misleading proprietary name, the physician endangers his patient, stultifies his profession and tends to perpetuate the great American fraud.

[EDITOR'S NOTE.—A list of some of the medical journals that advertise Bromidia:

<i>Texas Medical News</i>	<i>Southern Practitioner</i>
<i>Nashville Journal of Medicine & Surgery</i>	<i>New Orleans Medical & Surgical Journal</i>
<i>Medical Brief</i>	<i>Therapeutic Gazette</i>
<i>Annals of Surgery</i>	<i>Medical Herald</i>
<i>Charlotte Medical Journal</i>	<i>Medical Times</i>
<i>Medical Sentinel</i>	<i>Texas Medical Journal</i>
<i>Memphis Medical Monthly</i>	<i>Wisconsin Medical Recorder</i>
<i>Laryngoscope</i>	<i>International Journal of Surgery</i>
<i>Medical World</i>	<i>Vermont Medical Monthly</i>
<i>Medical Review of Reviews</i>	<i>Atlanta Journal-Record of Medicine</i>
<i>Louisville Monthly Journal</i>	<i>St. Paul Medical Journal</i>
<i>Indianapolis Medical Journal</i>	<i>Hospital Bulletin of the University of Maryland</i>
<i>Monthly Cyclopedic & Medical Bulletin</i>	<i>Denver Medical Times</i>
<i>Journal of Nervous & Mental Diseases</i>	<i>Buffalo Medical Journal</i>
<i>Maryland Medical Journal</i>	<i>Medical Review</i>
<i>Merck's Archives</i>	<i>Ellingwood's Therapeutist</i>
<i>Iowa Medical Journal</i>	<i>Eclectic Medical Journal</i>
<i>Medical Standard</i>	<i>Massachusetts Medical Journal</i>

—(From *The Journal A. M. A.*, May 16, 1914.)

CACTUS GRANDIFLORUS

Report of the Council on Pharmacy and Chemistry*

The Council voted that cactus grandiflorus should not be accepted for New and Nonofficial Remedies, and that a statement be prepared for THE JOURNAL giving the reasons for this action. Accordingly the following report has been adopted by the Council and its publication authorized.

W. A. PUCKNER, Secretary.

Cactus Grandiflorus

The therapeutic value of this plant has been variously estimated by different observers. Experimental evidence as to its action is scanty and no complete chemical examination has ever been made.

Reputable men have testified that some of the plants of the cactus family contain very active principles, but so far experiments seem to prove that cactus grandiflorus has neither the action of digitalis nor that of strychnin. The principal contributions, clinical and experimental, for and against the drug, are set out below.

EXPERIMENTAL EVIDENCE

O. H. Myers¹ worked with a product which he calls cactina and which he regards as the active principle of the drug. (As no such substance as cactina is described in any materia medica, it is impossible to state what Myers really used.) He found that it had a strychnin-like action and raised the blood-pressure.

Hatcher comes to the conclusion: "Either Myers' work was a pure fabrication or he was dealing not with cactin but with a substance similar to the pellotin of Heffter, the action of which resembles that of strychnin to a certain extent."

E. Boinet and J. Boy-Teissier² experimented with an aqueous extract, an alcoholic extract, and with an alkaloid which they call "cactine." They concluded from three sets of experiments on frogs that extract of cactus produces, in ten minutes, a temporary increase in the heart's action which frequently repeated doses are required to maintain; and that large doses slow the heart and produce arrhythmia.

L. E. Sayre³ experimented with a preparation of cactus, made from the stem of the plant, by injecting it into the dorsal lymph space of the frog. There was seemingly an increase in the amplitude of the heart's action and an indication of a strengthened beat or increased force.

* A reprint of various articles discussing Cactus Grandiflorus, Cactin—now called Cactoid—(Abbott Alkaloidal Company) and Cactina Pillets (Sultan Drug Company) will be sent on receipt of a 2-cent stamp:

1. New York Med. Jour., 1891, liii, 681-683.

2. Bull. gén. de thérap., 1891, cxxi, 343-349.

3. Am. Pharm. Assn., 1906, liv, 405.

R. A. Hatcher⁴ states that it is possible that *cactus grandiflorus*, under certain conditions, may contain a principle with a strychnin-like action. But Hatcher made ten experiments on frogs, four on cats, six on dogs, two on rabbits, and one on a guinea-pig, with *Cactina* pillets of the Sultan Drug Company and the *Cactin* of the Abbott Alkaloidal Company. From 1 to 15 pillets in frogs and up to 25 in dogs were used at each dose. In no single instance was there any evidence of a digitalis-like or strychnin-like action, or, in fact, of any decided action of any kind whatever.

Gordon Sharp⁵ was unable to obtain either alkaloid or glucosid from the plant, but found a series of resins that caused contraction of the blood-vessels of a frog. This was not a digitalis-like contraction, but depended, he believed, on simple acidity. On the heart of the frog the resins have little or no effect, comparisons being made with digitalis in the same animals. There is no proof that *cactus grandiflorus* itself shortens diastole, or in fact, that it has any special action on the heart muscle at all. Sharp experimented on himself with large doses of an extract made with alcohol 1 to 5, but got no noticeable results. He thinks that the plant may have some slight diuretic action.

Sayre submitted the preparation which he used in his experiments for more careful testing to E. M. Houghton, who reported that it had practically no action on the heart.

In commenting on Houghton's results, Reid Hunt said that they were confirmed by his own experiments. He did not deny, however, that the drug might have some therapeutic effect and that, in very large doses, it did affect the kidneys.

S. A. Matthews⁶ found one preparation of *cactus* (*cactin*—Abbott) absolutely inert so far as any effect on the heart is concerned. He found that *cactina* (Sultan Drug Co.) in very large doses depressed both the circulation and respiration. In this regard it differs from strychnin, and it has no resemblance to the action of digitalis, *strophanthus* or any of the heart stimulants. A dose of from 10 to 12 pillets administered intravenously to a 10 to 12 kg. dog exerted little or no influence on the heart or circulation; the larger dose may cause a slight fall in blood-pressure. When 70 or more pillets were administered within two and a half hours the animal generally died.

The work of Boinet and Boy-Teissier also has been criticized by Hatcher on the ground that their most positive results were obtained with an alkaloid which no one at this day is able to prepare. The results quoted in this report, however, were obtained by the use of extracts of *cactus* so that it does not seem that they should be entirely rejected, whatever their value may be.

4. THE JOURNAL A. M. A., Sept. 21, 1907, pp. 1021-1024.

5. Practitioner, London, 1894, iii, 444-446.

6. THE JOURNAL A. M. A., March 21, 1908, pp. 956-958.

CLINICAL EVIDENCE

Clinical observations have been more abundant than exact, and a favorable action of the drug in some organic diseases of the heart has been reported; other observers would limit its use to functional arrhythmia, insisting that it is not a substitute for digitalis or aconite, but that it occupies a place distinct from either of those remedies.

P. W. Williams⁷ recommends cactus for functional heart disease, but, as a rule, found it useless in organic disease. He thinks it one of a class of remedies which act on the accelerator nerves and sympathetic ganglia, shortening the diastole and stimulating the spinal vasomotor nerve centers. Williams apparently relied on Myers for his knowledge of the pharmacologic action, and his paper is a fair example of the clinical studies of cactus.

Ellingwood⁸ claims that cactus is a cardiac tonic, acting on the accelerator nerves and heart ganglia, increasing muscular force and arterial tension. He recommends it in both organic and functional diseases.

Boinet and Boy-Teissier found that therapeutic doses of 40 drops of tincture of cactus were without effect on the normal heart. In patients with noisy asystole (*asystolie bruyante*) the same dose produced no appreciable effect. In the period of latent non-compensation of true cardiac patients, from 80 to 100 drops a day increased the force of the failing heart. In patients with secondary heart disease with arrhythmia of nervous origin, daily doses of 80, 100 and 120 drops of the tincture were well tolerated for weeks; they seemed to increase the fulness of the pulse and regulated its rhythm. In spite of such large doses, these observers never noticed any symptoms that could be attributed to a cumulative action. It must be remembered that the precise preparation of cactus which they used is not known.

Aulde⁹ recommends it as a cardiac tonic free from cumulative effects.

Gordon Sharp says: "The therapeutics of the subject, I think, are clear enough. Cactus grandiflorus cannot be included in our list of cardiac drugs. It is not even a simple stomachic tonic and at most all one can say is that it has small diuretic action."

Hatcher says: "Clinical testimony is so conflicting that between the extreme views of Gordon Sharp and those of Ellingwood there is room for an honest difference of opinion concerning cactus grandiflorus."

7. Practitioner, London, 1891, xlvii, 266-273.

8. Med. Rec., New York, 1905, lxvii, 857.

9. Practitioner, London, xlvii, 223; Therap. Gaz., 1890.

Matthews himself took 100 granules of cactin (1/67 gr.—1 mg. each), 25 every four hours, without experiencing the least effect.

CONCLUSIONS

Reliable conclusions regarding the therapeutic use of *cactus grandiflorus* are rendered difficult on account of several factors.

1. It is uncertain what part of the plant contains the active principle if one exists; and its nature is unknown. The National Standard Dispensatory states that its "activity must be confined to the flower in some special stage of its development or to a certain part of it or to some parts gathered with it." This uncertainty may explain the negative results obtained by some observers, but it makes the drug one that cannot be generally relied on and gives an excellent opportunity for the exploitation of proprietary preparations.

2. Some of the experimental work and much of the clinical evidence has been obtained and published under proprietary auspices. For this reason many of the therapeutic claims made for the drug must be viewed as merely the reflection of the exaggerated statements made by the advertisers of proprietary preparations.

3. The value of clinical evidence when unsupported by an animal experimentation is much diminished by the tendency of enthusiastic and untrained observers to attribute to the drug given the effect really due to general remedial measures, psychic suggestion and so forth. While it must be admitted that valuable remedies may exist whose therapeutic properties cannot be revealed by animal experimentation, yet in the absence of such experimental evidence conclusions should be drawn with extreme caution.

Bearing these conditions in mind, the following statements seem to be justified: (a) The botanical, chemical and pharmaceutical properties of *cactus* are not sufficiently determined to make any available preparation a reliable remedy. (b) There is some evidence that *cactus* may be capable of affecting the animal heart and nervous system, but its action is not that ordinarily attributed to it. It does not increase the force of the heart-beat. (c) While there is some clinical testimony as to its usefulness in functional diseases of the heart, the indications for its administration are at present too uncertain to afford a safe basis for recommending it.

4. While the drug may be deserving of further experimental and clinical investigation, this should be carried on in reliable pharmacologic laboratories and in clinics provided with facilities for exact observation.—(*From The Journal A. M. A., March 12, 1910.*)

CALCREOSE

Report of the Council on Pharmacy and Chemistry

In response to inquiries and in view of the extensive advertising propaganda, the Council, on Dec. 19, 1913, took up for consideration Calcreose (Maltbie Chemical Company, Newark, N. J.). Examination showed that the preparation contained, in loose combination, approximately equal weights of creosote and lime. The claims made in the advertising "literature" were extravagant and uncritical, and the Council therefore held Calcreose ineligible for New and Nonofficial Remedies.

In June, 1914, at the request of the Maltbie Chemical Company, the Council undertook a reconsideration of the preparation. The advertising claims were now found more conservative. Before the existing claims could be judged, however, the Council deemed it necessary to require from the company satisfactory proof (1) that the large doses of Calcreose recommended and administered actually furnish large amounts of creosote to the blood, and (2) that patients taking these large doses do not suffer from digestive disturbances, loss of nutrition, albumin in the urine or phenol urine, as claimed. The Council accordingly advised the company of this requirement, at the same time stipulating that nothing in the report should be interpreted as indicating a belief on the part of the Council that enormous doses of creosote are necessary for, or will promote a cure of tuberculosis.

The Maltbie Chemical Company has not up to the present date furnished this proof, but has evinced a disposition to make the Council's holding Calcreose under advisement appear in the guise of a quasi-approval. It is therefore recommended that Calcreose be refused recognition for conflict with Rule 6.—(*From the Journal A. M. A., June 26, 1915.*)

CAMPHO-PHENIQUE

Report of the Council on Pharmacy and Chemistry and Some Comments Thereon

The following report was submitted to the Council on Pharmacy and Chemistry by the subcommittee to which Campho-Phenique had been assigned:

To the Council on Pharmacy and Chemistry:—Campho-Phenique, sold by the Campho-Phenique Co., St. Louis, Mo., is claimed to be composed of phenol 49 per cent., and camphor 51 per cent.

Examination of specimens, purchased in the open market, made under our direction, demonstrates that the statements made in regard to the composition are not true. Instead of containing 49 per cent. of phenol (carbolic acid), the analysis showed that it contains not more than 20 per cent. Instead

of containing 51 per cent. of camphor, the analysis demonstrates that the amount of camphor is not more than 38 per cent. Besides phenol and camphor, a third substance was found which proved to be liquid petrolatum and to be present to the extent of 38 per cent. or more.

Since the statements made in regard to the composition of Campho-Phenique are deliberate misrepresentations of the facts, it is recommended that the article be not approved.

Besides Campho-Phenique, the above-mentioned firm also sells a preparation labeled Campho-Phenique Powder. While no statement in regard to the composition of this product is made on the label or in the literature, such expressions as "Campho-Phenique in a powdered form" and "Powdered Campho-Phenique" lead to the inference that it has essentially the same composition as that stated for the liquid preparation. An examination of a specimen of Campho-Phenique Powder purchased in the open market showed that 92 per cent. of it was a talcum-like inorganic substance. The remaining 8 per cent. consisted chiefly of camphor with a small amount of phenol.

In view of the fact that Campho-Phenique Powder contains very little phenol, but instead consists chiefly of an inorganic talcum-like substance, its name is misleading and deceptive. It having been shown that Campho-Phenique Powder corresponds to a camphorated talcum powder, the claims that it "has no equal as a dry dressing," that it is "absolutely superior to iodoform," and that it has "all the excellent properties of aristol and iodoform," are unwarranted. It is recommended that the article be not approved, and that this report be published.

The recommendations of the subcommittee were adopted by the Council, and in accordance therewith the above report is published.

W. A. PUCKNER, Secretary.

Campho-Phenique

The above report on a much advertised "ethical" proprietary medicine is worthy of the thoughtful consideration of the members of the medical profession, as it illustrates admirably some of the conditions connected with this proprietary medicine business.

THE FORMULA A FAKE

First, it illustrates the fact that the published formulas of the "ethical" proprietaries are not always reliable. The Campho-Phenique Company has been very willing to give out a formula, purporting their product to be 51 per cent. camphor and 49 per cent. phenol (carbolic acid). Now, these two drugs will make a liquid mixture, and any druggist can make it, and the mixture will have about the same consistency and appearance as Campho-Phenique. But its effect differs decidedly from that of Campho-Phenique. Some months ago a very intelligent physician, in discussing the proprietary medicine business, said that in some cases physicians could not get druggists to make preparations which

were as satisfactory as those which could be bought ready-made. He cited Campho-Phenique as an illustration. He said that he had used this preparation for burns, etc., but as he did not like to use preparations put up by companies about which he knew nothing, he asked his druggist to make the mixture in accordance with the published formula. The druggist's preparation was not satisfactory; it had a decidedly different effect from Campho-Phenique, and so he tried another druggist. This druggist also followed the published formula, but his results, too, differed materially from the proprietary article.

The various analyses that have been made show why the preparations put up by the druggists did not resemble that made by the company; since, according to the analyses, Campho-Phenique consists of 40 per cent. liquid petrolatum, which is an inert but soothing diluent, while instead of 49 per cent. of carbolic acid, as claimed, it really contains less than 20 per cent. This is an entirely different proposition. Now, if the physician referred to above will have his druggist make a mixture of 20 per cent. of carbolic acid, 40 per cent. of camphor and 40 per cent. of liquid petrolatum, and will then compare this resulting compound with Campho-Phenique, he will find that there is not much difference. Furthermore, he will realize that there is nothing either new or wonderful about the preparation. Camphorated oil and carbolized oil are both in common use. Campho-Phenique is apparently simply a mixture of the two.

THE POWDER STILL WORSE

So much for the liquid. The powder seems to be something entirely different, for, according to the chemist's report, over 90 per cent. of it is inert, absorbent, talcum-like material. There is enough camphor and carbolic acid to give the powder an odor and thus mislead physicians, especially those who are in the habit of taking for granted that whatever statements nostrum manufacturers make are true. Perhaps it is a fairly good dressing for wounds—at least it will do no harm—but its name is misleading and deceptive. For all practical purposes it is essentially a camphorated talcum powder.

COMPANY A "PATENT-MEDICINE" CONCERN

The second interesting phase of this "ethical" proprietary is that it illustrates another point, i. e., that many of these articles are supplied to our profession by those who are not legitimate manufacturing pharmacists. The Campho-Phenique Company of St. Louis, according to all reports, is owned and controlled by a gentleman named Ballard. This "company" supplies the medical profession with the preparations under consideration and also with Chloro-Phenique and

Scrofonol. We are informed that this same Mr. Ballard is the principal owner, if not the sole owner, of quite a number of "patent-medicine" companies, such as Ballard-Snow Liniment Co., Brown's Iron Bitters Co., Mayfield Medicine Mfg. Co., Smith Bile Beans Co., Swain's Laboratory, and several others. We learn from the wholesale drug trade lists that these various "companies" make and sell, besides the Campho-Phenique preparations, Ballard-Snow Liniment, Ballard's Herbine, Brown's Iron Bitters, Dr. Herrick's Pills, Richardson's Life-Preserving Bitters, Smith's Bile Beans, Swain's All Healing Ointment, and several other "patent medicines."

It is hardly necessary to make any further comments. The whole business is nauseating to those who know the actual conditions of this nostrum business and how our profession is being deluded. The Campho-Phenique matter is not an exception; it is simply another illustration of these conditions.

The majority of "ethical" proprietaries are foisted on our profession, either without any formula accompanying them, or with a "formula" that is a fake. The majority of the "ethical" proprietaries are manufactured and supplied to physicians, with instructions regarding their use, by men who bear the same relation to legitimate pharmacy that the veriest quack that ever swindled a credulous public bears to scientific medicine.—(*From The Journal A. M. A., April 20, 1907.*)

CELERINA, ALETRIS CORDIAL AND KENNEDY'S PINUS CANADENSIS, LIGHT AND DARK

Report of the Council on Pharmacy and Chemistry

The following reports on products of the Rio Chemical Company have been submitted by a referee. The Council recommends that they be published, as the preparations discussed are glaring instances of nostrums exploited through physicians on unscientific claims and false representations.

W. A. PUCKNER, Secretary.

Celerina

Celerina belongs to what Samuel Hopkins Adams calls the "bracer" type of nostrum. According to the label it contains 42 per cent. alcohol (whisky contains about 50 per cent.). The other ingredients of Celerina are declared to be as follows:

"Each fluidounce represents Forty grains each Kola, Viburnum, Forty-eight grains Celery, Twenty grains Cypripedium, Sixteen grains Xanthoxylum and Aromatics.

"Dose—1 or 2 teaspoonfuls 3 times a day."

Kola contains a very small percentage each of caffein and theobromin. It is impossible for the infinitesimal amounts of these alkaloids in an ordinary dose of Celerina to produce any physiologic effect.

Viburnum has been called a "uterine sedative," whatever that may be. Its only real activity is the psychic one due to its taste and odor.

Celery at one time was credited with being both an antispasmodic and a nerve stimulant—a remarkable combination of opposing qualities! Scientific investigation has failed to show that celery has any physiologic or therapeutic activities. If it had the slightest medicinal value, the rational course would be to prescribe it in its fresh and natural state. The small dose contained in a teaspoonful of Celerina is inappreciable and not even equivalent to that contained in a stalk of celery.

Ladyslipper, more imposing under the Latin name of "cypripedium," is a flowering plant with a legendary reputation as an "antispasmodic and nerve stimulant." It has been in the therapeutic scrap-heap for years. It contains a little tannic acid, gallic acid and a volatile oil. Even a tannic acid action cannot be expected from a teaspoonful of a preparation containing 20 grains of ladyslipper to the ounce.

Prickly ash (*xanthoxylum*) has never been shown to have any activity other than that of a local irritant, especially to mucous membranes. The slight "bite" from this drug would be entirely covered up by the alcohol in Celerina. Any stimulating effect which this drug may have on the stomach is greatly inferior to that produced by a very small glass of ordinary ginger ale.

In short, there is no ingredient in Celerina, except the alcohol, that has any recognizable activity; and the alcohol content is nearly as great as that of ordinary whisky. Some of the claims and recommendations for this nostrum are:

"Celerina (Nerve Tonic), for Nervousness, Hysteria, Insomnia, Nervous Indigestion, Languid and Debilitated Conditions, Recovery from Alcoholic Excess."

Think of prescribing an alcoholic nostrum four times a day to promote recovery from alcoholic excess!

"NEURASTHENIA: The bane of the general practitioner; the puzzle of the neurologist; the juicy fruit of the quack and faddist; the opportunity of the intelligent therapist. . . . For the medical treatment CELERINA is the preparation of wide utility."

The *sang froid* with which the exploiters of this nostrum refer to other "quacks and faddists" as reaping "juicy fruit" from neurasthenics would command admiration were it not so pitiful.

"Celerina has substantial endorsement in nervous disorders characterized by Aphonia (nervous)."

Of course, the disappearance of nervous aphonia might follow the application of any treatment whatever, be it Eddyism, Chiropractic, Peruna or Celerina.

In

"CLIMACTERIC (the Menopause) flattering results have been reported from a combination of equal parts Celerina and Aletris Cordial Rio."

"Teaspoonful doses after meals and upon retiring have proven efficacious [in "dyspepsia"] when other remedies have failed."

Here is a good example of proprietary-house therapeutics: Such widely different conditions as digestive trouble and the climacteric are to be treated with a combination of alcohol, simple bitters and aromatics! Why not order a cocktail under its own name? It would be equally efficacious, less mysterious and its dangers might be better realized!

"A teaspoonful or two in three tablespoonfuls of boiling hot water [for insomnia] upon retiring."

Any other hot toddy at bedtime (and it need not cost a dollar a bottle) might give relief; but the intelligent physician to-day recognizes the danger of prescribing alcohol in such conditions.

"In the case of brain workers who suffer from nervous excitability and mental fatigue, the administration of Celerina in teaspoonful doses, three times a day and at bedtime, rapidly controls the condition and increases mental capacity."

And the same effect follows its use:

"In cases involving worry, anxiety, overwork, and excesses of various kinds. . . ."

Moreover:

"Celerina is the most prompt and efficient of remedies for devitalized or broken-down constitutions—doses four times a day."

The statement made by its manufacturers that this preparation is free from narcotics or habit-forming drugs is not true. Alcohol is both a narcotic and a habit-forming drug.

As in the case of other nostrums containing no potent drugs but alcohol, Celerina is recommended for various diseased conditions in combination with a familiar form of treatment by drugs of more or less value. The physician who thoughtlessly prescribes one of these combinations will without doubt unthinkingly attribute any subsequent improvement to the Celerina. Thus, for malaria, a prescription of quinin and Celerina is advised; for chorea in children, arsenic with Celerina; in "Convalescence from La Grippe," strychnin sulphate, Fowler's solution, and Celerina; for impotence, nux vomica, dilute phosphoric acid and Celerina. In none of these conditions would Celerina affect favorably anything except the pockets of the exploiters; in some, as in the chorea of children, the alcohol would be positively detrimental. Of

course, the value of such prescriptions (so far as they have any apart from the fictitious value lent by the alcohol) resides altogether in the standard drugs prescribed with Celerina.

There is no possible excuse for writing a prescription for Celerina, either in original package or mixed with well-known or valuable drugs. The sooner it is realized that this preparation has no place in medicine, should never be prescribed by physicians and is essentially nothing but alcohol and bitters exploited under a fancy name, the better for the public health and the science of medicine. The continued sale and use of Celerina is a disgrace to the medical profession.

Aletris Cordial

Aletris Cordial is a nostrum containing therapeutically worthless drugs in alcohol (28 per cent.).

The "formula" on the label reads:

"Each fluidounce represents ten grains Aletris, thirty grains Helonias and thirty grains Scrophularia."

At one time these drugs had some vogue, chiefly as domestic remedies. They have been discarded as valueless by modern scientific medicine.

Aletris, or unicorn root (*Aletris farinosa*), contains a bitter principle and starch. The remarkable uterine tonic properties formerly ascribed to it have not been confirmed by reliable observers. It is practically worthless.¹

Helonias, or false unicorn (*Chamaelirium luteum*), is asserted to be a hemostatic and uterine tonic. No trustworthy evidence has ever been offered in support of the claims made for this drug; reliable medical literature contains no reference to it; it has no valid claim on the attention of physicians.²

Scrophularia, or figwort (*Scrophularia marilandica*), contains a principle which has a digitalis-like action on the heart. Its activity is so slight in comparison with that of digitalis, however, that there was nothing to be gained by studying it. The drug is consequently little known and is not mentioned in critical works on pharmacology. If the drug were therapeutically active in the quantities used, another danger would be added to that of the alcohol content of Aletris Cordial. Since the recommended dose (a teaspoonful) contains, if the formula be correct, only about 4 grains of figwort, this drug too may be regarded as practically inert in this preparation.

Not one of these drugs has been deemed worthy of mention in the Pharmacopeia. The Council has previously discussed them and declared them valueless (Reports Council Pharm. and Chem., 1909, p. 146; 1910, p. 10; 1912, p. 42).

1. See Unicorn Root, Wild Yam, and Wild Indigo, p. 208.

2. See False Unicorn (Helonias), p. 84.

In Aletris Cordial, then, there is no ingredient capable of producing any other effect than the alcohol stimulation and such psychic effect as may be due to the bitter taste. Yet physicians are asked to believe that

"Probably no remedy is so uniformly successful in the prevention of threatened miscarriage as ALETRIS CORDIAL Rio."

"HABITUAL MISCARRIAGE can be effectually overcome by the systematic use of Aletris Cordial Rio."

"... regulates the local circulation and imparts normal tone and strength to the uterine muscle."

"The use of Aletris Cordial Rio throughout pregnancy goes far to assure normal, uncomplicated labor."

Such claims as these, when made for a mixture containing no therapeutically active constituent except alcohol, are absolutely preposterous. It should be noted that the declared alcohol content of Aletris Cordial is much higher than that of the strongest wines, and, in the light of medical experience, quite high enough to promote the formation of the alcohol habit in a steady user. The following recommendation, taken from the company's "Budding into Womanhood" circular, therefore, is outrageous:

"Many medical practitioners recommend to mothers the use of Aletris Cordial Rio for their growing daughters, ranging in age from twelve to eighteen years. . . ."

It is to be hoped that no medical practitioner is so heedless of consequences as to prescribe for adolescent girls a worthless nostrum capable of creating a craving for alcohol. The temperance societies might with profit take steps to inform laymen, especially women, concerning the worthlessness of this nostrum, the risk involved in taking it, and the outrageous character of the recommendations made for it by the manufacturers.

Kennedy's Pinus Canadensis, Light and Dark (Abican and Darpin)

Kennedy's Pinus Canadensis, Light (recently renamed "Abican") and Dark (renamed "Darpin") are also exploited by the Rio Chemical Company. Although they have been on the market some thirty or forty years they appear to have achieved no marked degree of commercial success. Yet they have been imitated by most of the pharmaceutical houses. They are of interest chiefly through the barefaced fraud involved in their exploitation.

COMPOSITION CLAIMED

Apparently the dark preparation ("Darpin") was first put on the market; then the light one ("Abican") was offered, to be used only "as an injection and externally." The reason for the existence of the light preparation evidently was the objectionable property of the dark, which stained linen. The two preparations are both said to be extracts of Pinus Cana-

densis or hemlock bark. A circular issued some years ago contained the following statement:

"Pinus Can. (Ken.)—*Dark*—A non-alcoholic extract of Pinus Canadensis, to each fluidounce of which is added 0.48 grains Thymol.

"Pinus Can. (Ken.)—*Light*—A non-alcoholic extract of Pinus Canadensis, to each fluidounce of which is added 24 grains each of pure Alum Potash and Sulphate of Zinc and 0.48 grains of Thymol."

The labels on the packages of the light and dark preparations sent out to-day bear, respectively, only the following references to composition, the first on the dark and the second on the light:

"Each fluidounce also contains 0.48 grains Thymol."

"A non-alcoholic preparation of Pinus Canadensis, to which is added twenty-four grains each pure alum potash and sulphate of zinc and 0.48 grains thymol to the fluidounce."

ACTUAL COMPOSITION

"Darpin" or Kennedy's Pinus Canadensis, Dark, does contain tannin, but, as the simplest of chemical tests demonstrate, Pinus Canadensis, Light, does not contain tannin. It might as truthfully be called maple syrup or beef tea.

It is almost a work of supererogation to discuss the therapeutic claims made for preparations sold under false pretenses as to composition. It is enough to mention that Kennedy's Pinus Canadensis, Dark or Light, is recommended in

ALBUMINURIA
DIARRHEA-DYSENTERY
FETID PERSPIRATION
ENDOMETRITIS
FISSURES
FISTULA
GONORRHEA

HEMORRHAGE FROM THE NOSE
UTERINE HEMORRHAGE
LEUCORRHEA
NASAL AND PHARYNGEAL CATARRH
PILES
SORE THROAT
ULCERATION OF THE CERVIX

The intelligent physician of to-day knows that his forefathers in the days of the stage-coach employed tannic acid in its crude form and treated intestinal disease in a very unsatisfactory manner; he knows, further, that advances in our knowledge of pathology have rendered the use of tannic acid in gastro-intestinal therapeutics largely unnecessary and that when it is used it should be in some form that will pass the stomach unchanged. So far as its use as local application is concerned, he knows, without need of instruction from the Rio Chemical Company, when tannin is indicated, and the Pharmacopeia furnishes a suitable preparation for the physician so that he need not resort to an unscientific nostrum like Darpin.

The physician who is competent to treat a case of gonorrhea does not need to be told that alum and zinc sulphate may be useful in such conditions, and he does not want them palmed off on him for something else under the name of Pinus Canadensis, Light, Abican or what not. Also, he prefers to use them, when they are needed, singly and in strength suited to the conditions of the individual case.

[EDITORIAL COMMENT.—*Celerina*, *Aletris Cordial* and *Kennedy's Pinus Canadensis*, Light and Dark, appear to be the entire output of the Rio Chemical Company, which was one of the earliest of the various companies organized by James J. Lawrence of *Medical Brief* fame. The business was moved from St. Louis to New York City in 1901. According to what we believe to be reliable information, the Rio Chemical Company is now composed of James P. Dawson, president; William W. Conley, vice-president and treasurer; and E. D. Pinkerton, secretary. These also constitute the directors. It appears that James P. Dawson is a member of the law firm of Dawson and Garven, St. Louis; E. D. Pinkerton is said to be Miss Effie D. Pinkerton, stenographer for Dawson and Garven. We know little concerning William W. Conley except that he appears to be in charge of the establishment in New York. We find no evidence that he is either a chemist or a pharmacist; his name does not appear in the membership list of the American Chemical Society or of the American Pharmaceutical Association, nor can we discover that he has published anything in the way of chemistry or pharmacy. As a matter of fact, the Rio Chemical Company is another of the pseudo-chemical companies created to exploit one or more proprietaries—in this instance *Celerina*, *Aletris Cordial* and *Pinus Canadensis*. The following medical journals carry advertisements of the Rio products (or did late in 1914): *American Journal of Surgery*, *American Medicine*, *Denver Medical Times* and *Utah Medical Journal*, *Eclectic Medical Journal*, *International Journal of Surgery*, *Interstate Medical Journal*, *Massachusetts Medical Journal*, *Medical Brief*, *Medical Century*, *Medical Council*, *Medical Review of Reviews*, *Medical Sentinel*, *Medical Standard*, *Texas Medical Journal* and *Woman's Medical Journal*.]—
(From *The Journal A. M. A.*, Feb. 13, 1915.)

CINERARIA MARITIMA

Report of the Council on Pharmacy and Chemistry

Occasional inquiries in regard to the therapeutic value of *Cineraria maritima* caused the Council to consider the drug with reference to its fitness for inclusion in N. N. R. among non-official, non-proprietary remedies. The following report, having been submitted to the Council by a subcommittee, was adopted and its publication authorized.

W. A. PUCKNER, Secretary.

To the Council:—The juice of a plant referred to as *Cineraria maritima* was at one time supposed to be of value in the treatment of cataract and certain other affections of the eye. No scientific evidence is available to show that the drug is therapeutically active, and its value is no doubt

correctly estimated by Dr. Casey Wood, who ("Ophthalmic Therapeutics," p. 446; Cleveland Press, Chicago, 1909) says:

"Still, a few respectable names have been associated with its [*Cineraria maritima*] employment in that capacity and it only remains to be said that the instillation into the conjunctival sac of a preparation of this or any other member of the *Senecio* family has about as much effect on the resolution or dispersal of opacities due to organic changes in the lens as pouring the same down the back of the patient's neck!"

The plant from which *Cineraria maritima* juice is claimed to be prepared is commonly referred to in literature as *Cineraria maritima*, but is more correctly described as *Senecio cineraria*, D. C.

It may be considered a matter of indifference whether a remedy like this be advertised for the treatment of such diseases as cataract, providing its application could do no harm, but it must be remembered that it is recommended also for other diseases of the eye in which its use, by postponing efficient treatment, would be the means of serious damage or even loss of vision.

Since there is no evidence to show that this drug is of any therapeutic value, it is recommended that it be not admitted to the list of non-official, non-proprietary remedies in N. N. R., and that the Council formally expresses its opinion that the drug, as judged by the evidence which is available, is without value in the treatment of cataract or similar diseases of the eye.

[EDITORIAL COMMENT.—*Cineraria maritima* would long since have been relegated to the limbo of discarded and discredited drugs had it not been given a semiproprietary character by a St. Louis nostrum house—the Walker Pharmacal Company—which, like the Manola Chemical Company, is, we understand, practically a subsidiary concern of the Luyties Homeopathic Pharmacy Company. The Walker concern exploits this drug under the name *Succus Cineraria Maritima* (Walker). Its method of exploitation consists in publishing testimonials, which it dignifies with the name "clinical reports," from men whom it designates as "representative physicians." As indicative of what constitutes representative physicians, we find that of the seven testimonials given in their pamphlet the names of three of the signers are not to be found in any medical directory.

The exploitation of *Succus Cineraria Maritima* (Walker) is the oft-repeated story of the resurrection of discarded and worthless drugs for the purpose of creating proprietorship in a nostrum. *Cineraria maritima* is worthless; its therapeutic value is *nil*. By the prodigal use of printers' ink, the medical profession—and through it the public—has been humbugged into believing that it possesses curative value.]—(From *The Journal A. M. A.*, Nov. 11, 1911.)

HAGEE'S CORDIAL OF THE EXTRACT OF COD LIVER OIL COMPOUND *

Report of the Council on Pharmacy and Chemistry

This is one of the "oilless" cod liver cordials. Like other manufacturers of such extracts, the Katharmon Chemical Company, St. Louis, which owns Hagee's Cordial, attempts to trade on the reputation long enjoyed by cod liver oil as a promoter of growth and nutrition. The following is the statement of composition furnished by the company:

"Each fluid ounce of Hagee's Cordial of the extract of Cod Liver Oil Compound represents the extract obtainable from $\frac{1}{8}$ fluid ounce of Cod Liver Oil (the fatty portion being eliminated), 6 grs. Calcium Hypophosphite, 3 grs. Sodium Hypophosphite, $\frac{1}{2}$ gr. Salicylic Acid (made from Oil Wintergreen), with Glycerin and Aromatics."

And here are some of the therapeutic claims:

"Tonic, Stimulant, Alterative, Reconstructive, Nutritive and Digestive."

"Useful in phthisis pulmonalis, scrofula and all chronic pectoral complaints, coughs, colds, brain exhaustion, nervous debility, palsy, chronic cutaneous eruptions and impaired digestion."

Of course, these absurd claims hark back to the time of the prevalence of the now discarded theory that the valuable properties of cod liver oil reside, not in the fat, but in certain nitrogenous, alkaloid-like constituents present in infinitesimal amounts. Further "playing up" this theory:

"The prescriber may know that in our preparation he is getting, in easily assimilable and palatable form, the very properties that make cod liver oil the best of reconstructives."

"When you prescribe cod liver oil you are after the active principles—why not give the active principles themselves."

Proprietary manufacturers usually ignore scientific investigations which establish facts adverse to proprietary claims; but the same proprietary manufacturers are quick to seize on any theory that can be twisted into support of their interests. Thus, recent investigations having shown that cod liver oil, like butter and egg yolk, possesses certain growth-promoting properties not found in some other fats, the promoters of Hagee's Cordial claim these properties of cod liver oil for their extract. They assert:

"Recent Chemical Investigations of Cod Liver Oil show that the active principles contain the nutritive qualities attributed to the whole oil."

The Council has previously expressed the opinion¹ that the preponderance of evidence indicates that whatever therapeutic value cod liver oil may have depends chiefly, if not entirely, on its fat (oil). There never was any evidence or scientific authority for the theory that the therapeutic value

* See also the reports on Wampole's Preparation and Waterbury's Compound, following this; also Hagee's Cordial, p. 289; The Comparative Nutrient Value of Cod Liver Oil and Cod Liver Oil Cordials, p. 442.

1. THE JOURNAL A. M. A., Oct. 9, 1909, p. 1201.

of cod liver oil was independent of its fat content. The fact that the fat is the growth-promoting element has already been shown, and J. P. Street, chemist for the Connecticut Agricultural Experiment Station (*THE JOURNAL A. M. A.*, Feb. 20, 1915, p. 638), in a series of experiments on a number of the so-called extracts of cod liver or cod liver oil (including Hagee's Cordial) has conclusively demonstrated that the growth-promoting properties of the oil are not to be found in the extracts. Street placed rats on a ration not sufficient to maintain normal nutrition and growth for an extended period. After the rats had been on this ration for some time and a failure to maintain weight was indicated, an amount of dealcoholized Hagee's Cordial was substituted for a portion of the lard contained in the ration. Later Hagee's Cordial was replaced by cod liver oil.

Street says:

"None of the four rats did well on Hagee's Cordial; in fact, they lost 1.2 to 15.4 gm. during feeding periods of from seven to fourteen days."

"The rats failed so quickly when put on Hagee's Cordial that in two cases the animals did not recover even when put on the full cod liver oil ration."

"... the four rats during the Hagee period, instead of gaining the normal 24 gm., actually lost 36.2 gm., while during the cod liver oil period instead of gaining 114 gm., they gained 156.4 gm."

"*The inferiority of Hagee's Cordial as a reconstructive and a nutrient compared with ordinary cod liver oil is apparent.*"

Hagee's Cordial of the Extract of Cod Liver Oil Compound has neither the nutritive qualities nor the reconstructive efficacy of cod liver oil. This mixture is worthless for the conditions for which it is advertised, and is marketed under misleading and unwarranted claims. It is recommended that Hagee's Cordial be held ineligible for New and Nonofficial Remedies.—(*From The Journal A. M. A.*, April 10, 1915.)

WAMPOLE'S PERFECTED AND TASTELESS PREPARATION OF AN EXTRACT OF COD LIVER *

Report of the Council on Pharmacy and Chemistry

Wampole's Preparation is another of the oil-free "extracts" of cod liver. The following formula (which, be it observed, is non-quantitative and therefore practically worthless) is published by the owners, Henry K. Wampole & Co., Inc.:

* See also reports on Hagee's Cordial preceding and Waterbury's Compound following this; also *The Comparative Nutrient Value of Cod Liver Oil and Cod Liver Oil Cordials*, p. 442.

"Contains a solution of an extractive obtainable from fresh cod livers, the oily or fatty portion being afterward eliminated. This extractive is combined with Liquid Extract of Malt, Fluid Extract of Wild Cherry and Compound Syrup of Hypophosphites (containing Calcium, Sodium, Potassium, Iron, Manganese, Quinin and Strychnin)."

An alcohol content of 17 per cent. is declared on the label. The following claims are typical of those made for the preparation:

"This grease, or oil, is not present in Wampole's Preparation of the Extract, which is *palatable* and, at the same time, very efficient as a stimulant to the centers of nutrition and assimilation. It is unsurpassed as a reconstructive tonic . . ."

"[Cases] with a marked tendency to pulmonary troubles, . . . it a timely impulse be given them will easily shake off the impending evil. Wampole's Preparation gives that timely impulse . . ."

In the Council's opinion, as previously expressed,¹ such therapeutic value as there may be in cod liver oil is chiefly, if not altogether, due to the fat (oil). Lately, the investigations of J. P. Street of the Connecticut Agricultural Experiment Station have definitely disproved the claims made for the Wampole's and similar preparations. In Street's experiments, rats were placed on a ration insufficient for normal nutrition and growth. After the rats had been on the ration for a time long enough for inability to maintain weight to become evident, dealcoholized Wampole preparation was substituted for a portion of the lard contained in the ration. Later the Wampole preparation was replaced by cod liver oil. From these experiments it appears that, although the Wampole preparation is said to contain malt extract and sugar, it does not show the advantage over ordinary cod liver oil as a source of nutriment which is claimed for it by the manufacturers. Street emphasizes that the Wampole preparation does not possess to any marked degree the reconstructive properties of cod liver oil, butter fat and egg yolk, on which foods rats gain weight rapidly and steadily after having been on a deficient diet. Street calls attention to the fact that the amount of alcohol consumed daily by the user of the Wampole preparation (the equivalent of 0.7 fluid-ounces of whiskey) explains to a considerable extent the asserted tonic virtues of the preparation.

Though offered as an efficient substitute for cod liver oil, Wampole's "Perfected and Tasteless Preparation of an Extract of Cod Liver" lacks both the nutritive and the reconstructive properties and is marketed under an indefinite name and unwarranted and untrue claims. It is recommended that Wampole's Preparation be held ineligible for New and Nonofficial Remedies.—(*From The Journal A. M. A., April 10, 1915.*)

1. THE JOURNAL A. M. A., Oct. 9, 1909, p. 1201. (See following report, this volume.)

WATERBURY'S METABOLIZED COD-LIVER OIL COMPOUND *

Report of the Council on Pharmacy and Chemistry and Laboratory Contribution on Which It Is Based

The following report has been adopted by the Council and its publication directed. W. A. PUCKNER, Secretary.

To the Council:—Your committee on pharmacology has read with interest the contribution from the Association's laboratory on Waterbury's Metabolized Cod-Liver Oil Compound. The report shows that misleading and false statements are made in regard to the composition of the product and also that exaggerated and unwarranted claims are made for its therapeutic value. In view of the attempt of the Waterbury Chemical Co. to create a false impression in regard to the therapeutic value of the composition of its product, it is recommended that the following report be adopted and published:

The Council believes that there is a preponderance of evidence to indicate that whatever therapeutic value cod-liver oil has, that value depends chiefly, if not entirely, on its fat (oil). In the opinion of the Council, the word cod-liver oil should not be used in connection with any preparation unless it consists to a large extent (25 per cent. or more) of cod-liver oil. Since Waterbury's Metabolized Cod-Liver Oil Compound contains no appreciable quantity of cod-liver oil, the name is incorrect and misleading, and as a cod-liver oil preparation it is believed to be wholly valueless. The Council has previously voted that Waterbury's Cod-Liver Oil Compound be refused recognition because of conflict with Rules 1 and 6.—(*From The Journal A. M. A., Oct. 9, 1909.*)

[CONTRIBUTION FROM THE CHEMICAL LABORATORY OF THE
AMERICAN MEDICAL ASSOCIATION]

Waterbury's Metabolized Cod-Liver Oil Compound

W. A. PUCKNER AND L. E. WARREN

A full page advertisement of Waterbury's Metabolized Cod-Liver Oil Compound appeared in the *Iowa Medical Journal*, March 15, 1909, in the form of a letter purporting to give the results of an analysis of the product made for the firm by a Chicago chemist. In this letter-advertisement the chemist states at the outset that the results of his examination "are somewhat at variance with the statements made in THE JOURNAL." These statements he quotes as follows:

* See also preceding reports on Hagee's Cordial and Wampole's Preparation; also Waterbury's Compound once more, p. 291; The Comparative Nutrient Value of Cod Liver Oil and Cod Liver Oil Cordials, p. 422.

1. It is a clear liquid and no globules of oil are seen under the microscope. It is therefore not an emulsion.

2. It is of acid reaction when mixed with water and remains clear when strongly acidified. Hence it does not contain a soap, and is not a saponification of fat.

3. It mixes with water without precipitation, hence, it can not contain more than traces of a fatty acid.

The chemist admits in his letter to the firm that his analyses verify statements 1 and 3, but regarding statement 2 he says: "I find that your preparation is acid in reaction, but when strongly acidified gives a distinct turbidity within 10 minutes and a voluminous precipitate within 1 hour. This precipitate is shown to consist of fatty acids of cod-liver oil, which are thrown down by the splitting of the soaps, on acidifying either with sulphuric or hydrochloric acid." From these results he states that to him it seems that the "preparation does not deserve the statement that it contains no soap, as there is no question whatever of the presence of cod-liver oil."

While in the letter published in this advertisement the chemist claims to have demonstrated the presence in the product of "saponified cod-liver oil," he *omits to mention the quantities* of the soap present. In the article that originally appeared in THE JOURNAL (Oct. 13, 1906), in addition to the three paragraphs quoted by the chemist, the following statements were made:

"By these simple tests a physician is easily able to demonstrate that the preparation does not contain cod-liver oil. It is therefore valueless for the purpose of nutrition for which we give the oil. More careful analysis confirms the results of these tests and shows that it contains no fat or fatty acids (except the merest traces) . . ."

At the time these statements were published in THE JOURNAL, the *St. Paul Medical Journal*, October, 1906, contained an advertisement for Waterbury's Metabolized Cod-Liver Oil Compound, which contained this statement:

"The only tasteless preparation on the market which contains Cod-Liver Oil in its entirety. The metabolized product is obtained by the action of digestive ferments on pure Cod-Liver Oil."

In the *Ohio Medical Journal* of Feb. 15, 1907, there appeared in the form of an advertisement what purported to be an analysis of Waterbury's Metabolized Cod-Liver Oil Compound by Prof. C. N. Kinney of Drake University. While Professor Kinney made a quantitative analysis of the preparation, the quantities were omitted from the analysis as published. A footnote added by the Waterbury Chemical Company called attention to this fact and closed as follows:

"Any physician who is not satisfied with the analysis we will be only too glad to furnish the complete analysis by our representatives."

If this weirdly constructed sentence meant anything, it meant that the complete analysis would be furnished on request. Such requests to the company, however, from

various sources failed to elicit the information required nor was the "complete analysis" forthcoming. The inference to be drawn is fairly plain.

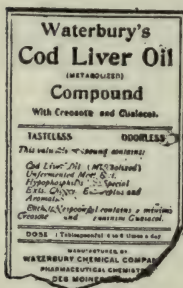
In a circular accompanying the product as sold at present, this statement occurs:

**WATERBURY'S
METABOLIZED COD LIVER OIL COMPOUND
WITH CREOSOTE AND GUAIACOL OR PLAIN**

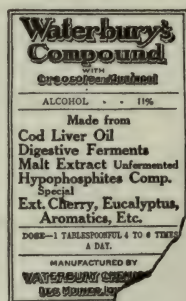
DOES CONTAIN COD LIVER OIL
DOES ALLAY FERMENTATION
DOES AID DIGESTION
DOES ASSIST ASSIMILATION
BUT DOES NOT DISTURB THE STOMACH

As previous examination disclosed only the merest traces of cod-liver oil in the product though claims were made that it "represents cod-liver oil in its entirety," and in view of the fact, too, that present advertisements emphatically declare that cod-liver oil is present in the preparation as now sold, it was thought best to examine some of the preparation with especial reference to the quantities of fatty acids from cod-liver oil.

The results of the examination are briefly as follows: The total quantity of acids isolated amounted to about



OLD LABEL



NEW LABEL

It is interesting in this connection to note that this product is no longer being sold under the name "Metabolized Cod Liver Oil Compound." See the illustrations of the old and new labels.

0.3 per cent., and of this amount about two-thirds was *salicylic acid*. Thus it appears from the examination of the specimens bought on the open market that the preparation

contains at most but 0.1 per cent. of the fatty acids from cod-liver oil, a totally insignificant quantity.

Notwithstanding the protestations by the manufacturers, in the form of published analyses and circulars, it is seen that the statements published in *THE JOURNAL*, Oct. 13, 1906, p. 1207, are essentially substantiated; it is further evident that the product does not deserve to be designated as a cod-liver oil preparation. To obtain a medicinal dose of cod-liver oil the patient would be compelled to swallow the contents of a bottle of this mixture, and as the product contains 11 per cent. alcohol the patient who did so would probably experience a degree of exhilaration not referable to cod-liver oil.—(*From The Journal A. M. A., Oct. 9, 1909.*)

Declared Misbranded

This product of the Waterbury Chemical Company, of Des Moines, Iowa, was exposed in *THE JOURNAL* of the American Medical Association, October 9, 1909. In May, 1910, the United States Government issued a notice of judgment in which it was declared that Waterbury's Metabolized Cod Liver Oil Compound was misbranded. The court rendered its decree of condemnation and forfeiture.—[*Notice of Judgment, No. 303.*]

WATERBURY'S COMPOUND

Report of the Council on Pharmacy and Chemistry

The Waterbury Chemical Company having requested that the Council reconsider its action of four years ago (see preceding report) on the product then known as Waterbury's Cod-Liver Oil Compound, now called Waterbury's Compound, the matter was submitted to a referee. The referee reported that the statement now made as to the composition of this product is as follows:

"Made from Cod Liver Oil, Digestive Ferments, Malt Extract Unfermented, Hypophosphites Comp. Special, Ext. Cherry, Eucalyptus, Aromatics, etc."

He held that the Waterbury Chemical Company has not submitted satisfactory evidence to indicate that the objections of the Council's former unfavorable report have been met; that there is no evidence that the product is a substitute for cod-liver oil in any way; and that under the present methods of exploitation it constitutes what is at least an inferential fraud; and recommended that no further consideration be given to Waterbury's Compound. The report was adopted by the Council.—(*From The Journal A. M. A., March 20, 1915.*)

COLCHI-SAL

Report of the Council on Pharmacy and Chemistry

Colchi-Sal, said to be made by the Anglo-American Pharmaceutical Co., Ltd., New York, is advertised, sold and "guaranteed" (sic) by E. Fougera and Co., Inc., New York. According to the label of a recently purchased specimen:

"Each Capsule contains Cannabis Indica (Active Principle of) 1-500th Grain ($\frac{1}{2}$ Milligram); Colchicine (Crystallized) 1-250th Grain ($\frac{1}{4}$ Milligram); Methyl Salicylate 20 Centigrams."

The advertising circular around the bottle adds that the mixture also contains "appropriate aromatic adjuvants."

It is recommended in "Gouty and Chronic Rheumatic Manifestations," "acute cases of Gout," "intestinal auto-intoxication or dyspepsia," "bilious headaches," etc. Salicylates are generally recognized as valuable in acute manifestations of acute articular rheumatism; colchicum is useless in these conditions. Both salicylates and colchicum are practically useless in chronic rheumatic and in chronic gouty affections. For dyspepsia, bilious headache, etc., salicylates are distinctly contra-indicated and the drastic purgation produced by colchicum would not be thought desirable. Though methyl salicylate administered internally is not generally considered so efficient as sodium salicylate, it is asserted that the former

"... is found far more effective than salicylate of soda or other salicylic derivatives when given in conjunction with colchicine as Colchi-Sal."

Further, the highly improbable and unsubstantiated claim is made that "the active principle of *Cannabis indica*" (whatever that may be) "corrects any tendency of the colchicine to irritate the gastro-intestinal tract" and that the "appropriate aromatic adjuvants" "prevent intolerance of the methyl salicylate."

Colchi-Sal is put up in a way to appeal to the public; the bottle has the name "Colchi-Sal" blown in the glass; the label gives full instruction for the use of Colchi-Sal, and also the price, suggesting that the preparation may be freely purchased. Wrapped around the bottle is a circular advising its use in various affections.

The physician who acts on the advice that it is well to "insist on the pharmacist dispensing original bottles . . ." of the "little green capsules" actually suggests to his patient the use of this preparation of methyl salicylate and colchicum in conditions in which these drugs may do much harm and in which proper treatment is imperative.

Colchi-Sal is typical of unscientific ready-to-take proprietaries. It was held ineligible for New and Nonofficial Remedies because of its secret composition, viz., the unknown nature of the "active principle of *Cannabis indica*" (Rule 1);

because the circular in the package and the name blown in the bottle constitute advertisement to the laity (Rule 4); because the claim that cannabis indica removes the gastrointestinal irritation, and the claim of the superiority of methyl salicylate are unwarranted therapeutic claims (Rule 6); because the name does not indicate the presence of the habit-forming cannabis indica, and because of its unscientific composition (Rule 10).—(*From The Journal A. M. A., March 20, 1915.*)

CYPRIDOL CAPSULES

Report of the Council on Pharmacy and Chemistry

Having voted that Cypridol Capsules be refused recognition, the Council directed that for the information of physicians publication of the following report be authorized.

W. A. PUCKNER, Secretary.

Cypridol Capsules, sold by E. Fougera & Co., New York, are stated to be "Bottled in the New York Laboratories of Vial, late Rigaud and Chapoteaut, Paris," and to contain, in each capsule, 2 mg. ($\frac{1}{32}$ grain) mercuric iodid (biniodid of mercury) dissolved in a fatty oil. They are claimed to permit the administration of mercury without danger of salivation—an obvious misrepresentation.¹ Cypridol Capsules are marketed in a way to appeal to the public. If they are once prescribed, the directions on the bottle and the full instructions for the treatment of syphilis by means of Cypridol and by other proprietaries sold by Fougera & Co. is likely to lead the patient to attempt the treatment of this malady on his own accord, and thus probably to forfeit his chances of cure. Cypridol is a vicious example of the "ready-to-take" proprietaries.

Cypridol Capsules are in conflict with the rules of the Council as follows:

Rule 4: The dosage, price, etc., on the label, and the name "Cypridol" blown in the bottle, all tend to a direct self-prescribing by the public. In addition to the objectionable statements on the bottle itself, the preparation is put up in patent medicine style and is accompanied by a circular giving full directions for the use of this and of other proprietaries for the treatment of syphilis in all of its stages. The circular states that "a 1 per cent. solution of bin-iodide of mercury

1. Physicians who desire to use a solution of mercuric iodid in oil should direct their pharmacist to prepare it according to the method suggested by Lemaire (Repert. pharm., xxi, 97-102, from Chem. Abst., 1909, p. 1444), viz.: One gm. of mercuric iodid is dissolved in 50 c.c. sterilized castor oil by warming to about 70 degrees, 3 gm. guaiacol are added and the solution made up to 100 c.c. with sterilized poppy oil. Or according to a later suggestion (Dunning: Proc. Am. Pharm. Assn., 1910, p. 1123): one gm. of mercuric iodid is dissolved in 99 gm. of a mixture of equal parts of sterilized castor and olive oils, by warming on the water-bath.

in an aseptic oil" is "An Improved Specific in the Treatment of Syphilis," and after lauding the virtues of Cypridol, gives full directions for the treatment of syphilis in its various stages by means of Capsules of Cypridol augmented, during periodical cessation of treatment, by "small doses of iodide of strontium (Paraf-Javal's standard solution, thirty grains to the ounce)." Further, the circular expounds the need of "a toning up of the general system" and by means of obsolete theories and obviously untrue assertions recommends "*Chapoteaut's Wine* [another of their proprietary preparations], each ounce of which contains 10 grains of phospho-glycerate of lime. This is a delicious, nutritive tonic. A pint bottle costs \$1.00."

Rule 6: Whereas it is evident that Cypridol, depending for its effects on mercuric iodid, the ordinary well-known hydrargyri iodidum rubrum of the U. S. Pharmacopeia, must naturally have the properties of a mercuric compound, unwarranted claims such as the following are made:

"CYPRIDOL does not render patients anemic. Ptyalism never follows the administration of the capsules or injections. On the contrary, patients rapidly put on flesh and keep well. There are no diarrhoeas or other symptoms of intolerance even when the dose is pushed."

Rule 8: The non-informing name "Cypridol" for a mercuric iodid preparation is bound to lead to its use without consideration of the fact that a potent mercury preparation is being used, requiring a careful adjustment of dosage, a consideration of the needs of the individual case, a correct diagnosis, etc. While the advertising propaganda argues that "physicians recognize the advantage of prescribing this solution of mercuric iodide in an aseptic oil under the name of 'Cypridol,' because it does not betray to the laity the fact that mercury is being used," not only the physician but also the patient has a right to know, and ought to know, the potent character of the remedy which is being administered.

It is recommended that Cypridol be refused recognition and that publication of this report be authorized.—(*From The Journal A. M. A., Dec. 19, 1914.*)

CYSTOGEN, CYSTOGEN APERIENT AND CYSTOGEN-LITHIA *

Abstract of Report of the Council on Pharmacy and Chemistry

Cystogen is the therapeutically suggestive name applied to hexamethylenamin by the Cystogen Chemical Company. While investigation has shown that hexamethylenamin yields formaldehyd only in the presence of an acid and consequently

* For the unabridged report of the Council's action on Cystogen, Cystogen Aperient and Cystogen-Lithia, see Reports Council Pharm. and Chem., 1914, p. 66.

can produce an antiseptic effect only in the gastric juice and in the urine, it is claimed that Cystogen is an "intestinal antiseptic" and that it "bears its disinfectant and antitoxic qualities into well-nigh every important bodily cavity."

As the sale of a simple drug even with the aid of the most extravagant claims probably did not offer sufficient opportunity for an extensive proprietary propaganda, the Cystogen Company has put out two other preparations, Cystogen Aperient and Cystogen-Lithia, and finds it an easy matter by means of extravagant claims, unwarranted assertions and pseudo-scientific arguments to recommend the use of one or another, or often all three, in a well-nigh endless number of diseases.

As the continued patronage of the medical profession cannot be relied on for proprietaries of this sort, the Cystogen Chemical Company takes good care that every Cystogen prescription is likely to spread the Cystogen gospel among the people. The Council has directed publication of its report on the Cystogen products to call attention to the way in which a simple drug of established value may be made the basis of an extensive proprietary propaganda. A conservative discussion of the action of hexamethylenamin appears in the Council's publication, "Useful Drugs." The Council therefore refused recognition to Cystogen, Cystogen Aperient and Cystogen-Lithia.—(*From The Journal A. M. A., Dec. 12, 1914.*)

CYSTO-SEDATIVE

Report of the Council on Pharmacy and Chemistry

Cysto-Sedative is sold by Strong, Cobb and Company, Cleveland, Ohio, with the claim:

"Each fluid ounce represents:

Thuja Occidentalis, $3\frac{1}{2}$ grains.

Pichi, 18 grs.

Saw Palmetto berries, 36 grs.

Triticum Repens, 36 grs.

Hyoscyamus 8 grs.

All inert extractive matter being eliminated."

The therapeutically active constituents of arbor vitæ, pichi, saw palmetto and couch grass have never been isolated—indeed, it has not been proved that all of these drugs contain any therapeutically active constituents. Yet the absurd claims are made that all inert matter has been eliminated and each lot of drug used in the preparation of Cysto-Sedative is "tested in reference to its medicinal activity." Equally preposterous is the claim:

"In formulating Cysto-Sedative each drug entering into its composition was subjected to careful study clinically to determine the exact proportion required when combined to increase their efficiency as a whole. Cysto-Sedative is scientifically prepared, the proportion of each

individual drug being so finely adjusted as to increase their therapeutic action in the conditions for which they are intended, forming a preparation always reliable and of the very highest medicinal activity."

Some other extravagant claims made for this complex unscientific mixture are:

"It gives relief in almost every form of cystitis and prostatitis . . ."

"The best results are obtained in the worst chronic cases of cystitis and prostatitis . . ."

"In Cystitis, Urethritis, Prostatitis, Inflammation of the Vesicle Neck, complicated with Gonorrhoea, Enuresis, Painful Micturition, the action of Cysto-Sedative is prompt."

The Council voted that Cysto-Sedative be refused recognition.—(*From The Journal A. M. A., Dec. 12, 1914.*)

TAKA-DIASTASE AND LIQUID TAKA-DIASTASE

Report of the Council on Pharmacy and Chemistry

Some time ago it was decided that a reexamination should be made of Taka-Diastase and Liquid Taka-Diastase, both of which had previously been rejected, to ascertain whether or not the preparations were in accord with the claims made for them by the manufacturers. Accordingly, the matter was referred to a committee of the Council, and an examination of specimens of these two preparations bought in the market was made. The referee's report, which appears below, according to the usual procedure, and before final confirmation by the Council, was first submitted to the manufacturers of Taka-Diastase for comment. The report recommends that the rejection of Taka-Diastase and Liquid Taka-Diastase be allowed to stand, and that the report be published. Parke, Davis & Co., in their reply, which is given in full below, claim that the report is unjust concerning Liquid Taka-Diastase, because the period of activity of the preparation has been greatly prolonged by reducing the amount of alcohol from 18 per cent. to 10 per cent. and by adding glycerin. They reiterate their claims for the digestive power of Taka-Diastase, but admit that it will not reduce the stated amount of starch to the colorless end-point in ten minutes (the standard method for the valuation of diastase). They further state that they would change the word "digest" on the label to "liquefy."

The conclusion of the report having been questioned, the entire matter was referred to a member of the Council's staff of clinical consultants. His report, which, also, is given in full below, states that the material before him was sufficient to decide the matter, and no further tests were necessary. He concludes that the claims of the manufacturers regarding the strength and properties of the material are erroneous and exaggerated; that the literature still sent out by Parke,

Davis & Co. is misleading; and that if substitution of the word "liquefy" for "digest" were endorsed by the Council confusion would result which would give an exaggerated and false value to Taka-Diastase. He therefore recommends that the report of the reinvestigation of Taka-Diastase be accepted by the Council and published.

This report of the second referee was referred to Parke, Davis & Co. with the request that they state more definitely the actual amylolytic strength of their preparations. To this they replied that they had no desire to discuss the subject further, or to make any additional statements.

In accordance with the second referee's recommendations, the Council confirmed its provisional action and voted that the rejection of Taka-Diastase and Liquid Taka-Diastase be allowed to stand, and that the report which appears below be authorized for publication.

W. A. PUCKNER, Secretary.

REFEREE'S REPORT ON TAKA-DIASTASE AND LIQUID TAKA-DIASTASE

Following is the report of the committee to which was referred the reexamination of Taka-Diastase and Liquid Taka-Diastase:

Some time ago a comparison was made of the various methods proposed for the valuation of preparations claimed to have amylolytic power. This work was reported in *THE JOURNAL*,¹ and the method proposed for the testing of diastase preparations now appears in *New and Nonofficial Remedies*.² In view of the incorrect and exaggerated claims made for Taka-Diastase, the Council in 1908 was obliged to rescind its acceptance and to direct its omission from *New and Nonofficial Remedies*. The report contained the following reference to Taka-Diastase (Parke, Davis & Company), a product that had been accepted for inclusion with *New and Nonofficial Remedies*:

"The widest discrepancy between the values as claimed by the manufacturer and those found by actual tests seems to be shown in the case of Taka-Diastase. The liquid preparation has been tested a number of times in different samples and has always been found weak. Some samples, in fact, were quite inert. This ferment appears to lose strength very rapidly in solution, as the manufacturers now concede. The stability of the solid product is also far from satisfactory, and appears to be less than that of the ferment as marketed some years ago. The two samples examined recently were weak."

More than three years have now elapsed since the publication of the Council's findings regarding Taka-Diastase—sufficient time, it is believed, for the manufacturers to modify

1. *THE JOURNAL A. M. A.*, July 11, 1908, p. 140.

2. *New and Nonofficial Remedies*, 1912, p. 68; *THE JOURNAL A. M. A.*, April 15, 1911, Part 2, p. 18.

either their claims or the product itself, and thus again make it eligible for inclusion with New and Nonofficial Remedies. With this idea in mind new specimens of Taka-Diastase and Liquid Taka-Diastase were purchased from a Chicago drug house and the preparations reinvestigated. The following is the report of this reinvestigation.

REPORT OF THE REEXAMINATION

In our report on the diastase preparations three years ago, it was recommended that Taka-Diastase be removed from New and Nonofficial Remedies, because the examinations showed that it did not have the digestive strength claimed for it. This was true both for Taka-Diastase itself and for Liquid Taka-Diastase. So far as the latter was concerned, the starch-converting power was practically *nil* in those preparations which had been in the drug stores for some months.

During the last few weeks new tests have been carried out with several samples of the Taka-Diastase preparations and the results obtained are essentially the same as those obtained in the former examinations. The liquid preparation is still extremely weak in starch-converting power, while we found that Taka-Diastase itself would convert only 16.6 parts of pure anhydrous starch to the colorless end-point in ten minutes, as explained below.

In our method of experimentation we determine the weight of the diastase in question which will convert a given weight of starch in uniform paste to the so-called colorless end-point in ten minutes, that is to the point where it will no longer give any color reaction with a standard iodine solution. The standard starch weight in 50 c.c. always is 1 gm. or 1,000 mg. and to a series of flasks containing this amount of starch, maintained at a constant temperature of 40 C., the diastase dilutions are added. These diastase dilutions are made by dissolving small, accurately weighed amounts of the sample in some small, constant volume of water, usually 5 or 10 c.c. and they are then poured into the starch flasks at the right temperature, and agitated regularly.

Tests are made by taking a few drops from each flask and mixing with the iodine solution. The end-point is reached when a dilution is found which, at ten minutes from the mixing time, gives no color with the iodine reagent. The first set of tests is taken as a general guide, and quite accurate results may be obtained in a second set of dilutions.

We first used a sample of Taka-Diastase bought in the open market. It was found that 140 mg. were required to convert the gram of starch as explained. This is equivalent to a conversion of 7.14 parts of starch by 1 part of the Taka-Diastase.

A new, and possibly fresher, sample was then obtained and the test repeated. With this new sample it was found that 60 mg. were necessary to convert the gram of starch to the colorless end-point in ten minutes, from which it follows that 1 part of the ferment will convert 16.6 parts of starch to the colorless end-point in the same time. With a new sample of

Liquid Taka-Diastase obtained simultaneously it was found that 3.5 c.c. were necessary to convert 1 gram of starch to the colorless end-point in ten minutes. As a fluidounce of this liquid is said to contain 20 grains of the solid it will be seen that the results approximately agree with those of the first sample of the solid, and that they are both very low.

In the earlier tests 16 parts of starch converted by 1 part of the ferment was the value found. These results are in close agreement with values reported by Sherman (*Jour. Am. Chem. Soc.*, xxxii, 1073) for a sample of recent purchase. He found a conversion of 51 parts of starch to the colorless end-point in *thirty* minutes for one sample, while for another he found 66 parts, in the same time. It will be noted that our time limit is *ten* minutes. It is worthy of note that for a perfectly fresh and specially prepared sample furnished by Dr. Takamine, a conversion of 278 parts in *thirty* minutes was found by Sherman. Taking the time into consideration, it will be seen that the results are about the same for the market samples as those found by us and much lower than claimed, as well as much lower than for other makes of similar products. The difference in the behavior of fresh specially prepared Taka-Diastase and the market sample is very clearly shown. No one questions the fact that fresh laboratory samples of Taka-Diastase may show a moderate converting power on starch. But we have to deal with the *activity of market samples only*, and Sherman's work and our own show the low digesting power of the product as physicians may secure it on the market.

The marked difference in activity between perfectly fresh and ordinary market samples of Taka-Diastase is very clearly shown also in a recent paper published by Wohlgemuth.³ In the digestion of starch paste to the "dextrin" stage Wohlgemuth found in the commercial sample a strength approximately a hundred times less than that observed in a fresh sample sent him by Dr. Takamine.

Wohlgemuth's results were obtained by a method not essentially different from ours, with this difference, however, that he digested through 24 hours in the cases reported, and carried the reaction to the "dextrin" stage only, in place of to a colorless end-point. Making the proper reductions, it is evident that the actual values found by him for the market samples bought in Germany are not greater than those reported by us.

The reference to the work of Sherman is made because, in a following paper in the same journal, he recommends the use of salt as an activator in finding the strength of certain diastase preparations. It is well known that dialyzed diastase preparations and starch of highest purity have but slight action on each other; a little salt increases the activity greatly, and also increases the activity of commercial diastase preparations. These facts Sherman utilizes in working out a method for valuation of commercial diastases. The facts were well known to us at the time of our former report, but it was not thought best to depart from the general method which had been in use by all analysts following

3. Wohlgemuth: *Biochem. Ztschr.*, March 18, 1912.

the general scheme of Roberts. Quite recently, I. Bang has published a paper on the investigation of diastase (*Biochem. Ztschr.*, xxxii, 417) in which he studies the behavior of sodium chlorid and other salts on the rapidity of starch conversion, and finds that a much smaller amount of salt than Sherman recommends brings the maximum increase.

The method employed in our former tests is a good comparative method, and this is all that may be claimed at present for any method. By adding salt to our starch solution the activity of Panase and other ferments is likewise greatly increased. For Panase, a preparation possessing rather high starch-converting power, we have recently found an increase of about 30 per cent. in the converting power, with salt present. Working to loss of blue color, merely, it is possible in this way to get a higher value than that claimed by the manufacturer. There is no practical gain in using the salt for our purpose as the methods are at best arbitrary, and the results only comparative.

Taking all the facts into consideration, it is recommended that the rejection of Taka-Diastase and Liquid Taka-Diastase be allowed to stand and that, in view of their extensive exploitation, this report be authorized for publication so that physicians may know the facts.

This report was referred to Parke, Davis & Co., and they made the following reply:

"The report submitted in your letter of the 23d is, we contend, erroneous and unjust: first, to our Liquid Taka-Diastase, because over three years ago we changed our formula, reducing the alcohol from 18 per cent. to 10 per cent., increasing the glycerin and thus prolonging greatly the period of activity.

"As for our regular Taka-Diastase, our claim is and has been for years simply that Taka-Diastase will digest or hydrolyze 150 times its weight of starch in ten minutes, under proper conditions. We do not claim, we do not permit our representatives to claim, that Taka-Diastase will completely transform starch, to the colorless end-point, into sugars. Taka-Diastase is used to supplement a deficiency of ptyalin and converts the starch into soluble material with great rapidity, thus giving the gastric fluid immediate access to the proteids.

"If in the enclosed labels the word 'digest' were replaced with the word 'liquefy,' the claim could not be assailed by the most carping critic. To save any possible question, we shall therefore make this change in our label, having it read: 'Taka-Diastase will liquefy 150 times its weight of starch in ten minutes, under proper conditions.' Is there the slightest question in your mind that this statement as just quoted is entirely correct and entirely supported by clinical experience?

"It is our conviction that Taka-Diastase has a very remarkable power to hydrolyze starch either in the test-tube or in the stomach, and that this property is of great utility in clinical work. We do not claim that its conversion of the

starch into sugars is complete, to the colorless end-point of the Johnson test; and on this point we have been perfectly frank with the Council, as well as with every physician who has taken sufficient interest to inquire."

In view of the above protest, the matter was submitted to a second referee, who reported as follows:

"Your referee on the matter of Taka-Diastase has made a careful investigation of the reports and correspondence submitted, and begs to make the following report:

"The question at issue, viz., whether Taka-Diastase should be included in New and Nonofficial Remedies, I believe, can be determined by the material before me, and further tests of the material are not necessary.

"The letter of the makers of Taka-Diastase admits that the early claims regarding the strength and properties of the material were erroneous and exaggerated. Since the product was once admitted to New and Nonofficial Remedies, it may be claimed that as the Council on Pharmacy and Chemistry must have been in error then, it may be now. Your referee does not consider this supposition worth discussing. The conclusion he draws is that the Council was too hasty in accepting the preparation, and that the incident shows how much better it would be in all cases to accept no remedy until sufficient time has been given for conclusive tests.

"The literature still sent out by Parke, Davis & Co. regarding Taka-Diastase is misleading and of a kind more appropriate for a nostrum than a standard chemical substance. What would we think if morphin, quinin or even heroin were advertised in the same way? I cite the statement, 'Taka-Diastase digests starchy food with vigor and directness.' It seems to the referee that the proposition to modify the label to indicate the amount of starch which is liquefied rather than the amount which is saccharified, in accordance with the Council's standard, is bound to lead to confusion and to give an exaggerated and false value to Taka-Diastase.

"Your referee recommends that the report of the reinvestigation of Taka-Diastase which has been submitted to me, be made available to the medical profession, and that the rejection of Taka-Diastase and Liquid Taka-Diastase be allowed to stand."

This report of the second referee was submitted to Parke, Davis & Co., with the request that they state more explicitly their claims regarding the activity of Taka-Diastase and Liquid Taka-Diastase, in order that, if they decided to revise their claims for the preparations, such revision of claims might be published along with the reports of the Council. They replied:

"Answering your note of the 15th instant: We have no desire to discuss further the subject of your letter of February 24, or to make any statement beyond that set forth in our letter to you of Dec. 27, 1911."—(*From The Journal A. M. A., July 6, 1912.*)

DIGALEN OMITTED FROM N. N. R.**Report of the Council on Pharmacy and Chemistry**

Digalen is a proprietary said to contain a soluble form (digitoxinum solubile Cloetta) of digitoxin, the chief active principle of digitalis. This preparation was accepted¹ by the Council in 1909 for inclusion in New and Nonofficial Remedies. The Council had not at that time determined whether Digalen contained "soluble amorphous digitoxin," as claimed, or not. The product was accepted merely as a standardized soluble and fairly stable digitalis preparation.

After the acceptance of Digalen, the therapeutic claims made for it by the manufacturers increased in extravagance. Meanwhile, evidence was brought forward by various independent investigators which tended not only to show that these therapeutic claims were unfounded, but also to discredit the claim that Digalen contained a principle chemically identical with digitoxin. In view of the obscurity of the whole subject of the chemistry of the digitalis principles, the latter claim (that Digalen was a solution of "amorphous digitoxin") had been an academic issue at the time of the acceptance of the product. When, however, the manufacturers of Digalen sought to mislead physicians by increased and unwarranted therapeutic claims, the Council felt that investigation of the whole matter was imperatively demanded to decide whether or not Digalen should be retained in N. N. R.

The questions at issue were: (1) the presence in Digalen of "amorphous digitoxin"; (2) the constancy of composition and reliability of action of Digalen, and (3) the claim that it causes less gastric disturbance than digitoxin. No satisfactory proof has yet been offered that Digalen contains "amorphous digitoxin." The mass of evidence tends to show that Digalen is not constant in composition or reliable in action, and that, when given in doses corresponding in therapeutic activity, Digalen causes quite as much gastric disturbance as the official galenical preparations of digitalis.

The outcome of protracted negotiations between the Council and the Hoffmann-La Roche Chemical Works may be summed up as follows: 1. The manufacturers promise to hold in abeyance the claim regarding the presence of "amorphous digitoxin." 2. They refuse to concede the variable composition of Digalen. 3. They reassert the claim that Digalen is superior to other digitalis products with respect to liability to cause gastric irritation and consequent vomiting.

In view of the unsatisfactory character of the reply on the second and third points, the Council voted that Digalen

1. THE JOURNAL A. M. A., Sept. 11, 1909, p. 869.

be omitted from N. N. R. and that publication of the report on Digalen which appears below be authorized, as well as of the two reports² (A and B) referred to therein.

W. A. PUCKNER, Secretary.

Referee's Report on Digalen

Because of persistent conflict with Rule 6 (unwarranted therapeutic claims) and Rule 1 (composition) it is recommended that Digalen be omitted from New and Nonofficial Remedies; also that a copy of the report be sent to the manufacturers, and that publication of this report and the two previous reports submitted to the Council be authorized.

The nature of the problems involved necessitates a somewhat extended discussion of the subject.

Digalein (liquid) is said to contain 1 part of soluble amorphous digitoxin Cloetta in 1,000 parts of glycerin and 1,600 parts of water with 7.5 per cent. of alcohol. One c.c. is said to contain 0.0003 gm. of the amorphous digitoxin.

Digalen was accepted by the Council³ and the following footnote was appended to the description in New and Non-official Remedies:

"The Council has not determined whether digalen contains 'soluble amorphous digitoxin' or not, but accepts it simply as a soluble digitalis preparation."

Tablets of Digalen were accepted by the Council as a dosage form of Digalen. Each tablet is said to represent 0.5 c.c. (eight minims) of Digalen (liquid).

One of the principal considerations which led the Council to accept Digalen was that it was regarded as affording a fairly constant and stable preparation of digitalis suitable for intravenous administration. If Digalen is not fairly stable and of fairly constant composition it has no obvious advantage over an active soluble digitalis preparation, such as digitelein.

The evidence now at hand seems to show: 1. Digalen is not of constant composition or activity. 2. The manufacturers, or their agents, continue to make misleading statements. 3. It is merely a solution of certain digitalis principles, probably of digitalen mainly, in impure form.

COMPOSITION

Cloetta⁴ prepared a soluble amorphous substance which he called "Digitoxinum solubile Cloetta," but no information concerning the method of preparation has been published.

Cloetta reported the result of an elementary analysis of his product which he compared to the analyses of digitoxin (crystalline) made by Schmiedeberg and by Kiliani, and stated that there could be no doubt concerning the chemical identity of the two substances.

2. These reports (A, first report on Digalen and B, examination of Digalen Tablets) will be published in the 1914 Annual Council Reports. A reprint of the entire matter dealing with the rejection of Digalen will be sent on receipt of a two-cent stamp.

3. THE JOURNAL A. M. A., Sept. 11, 1909, p. 869.

4. Cloetta: München. med. Wchnschr., 1904, No. 33.

Kiliani⁵ characterized as preposterous Cloetta's claim that the active constituent of Digalen is chemically identical with digitoxin and stated that Digalen was merely an impure digitalein. Kiliani has recently reiterated the statement that the so-called "amorphous digitoxin" is not identical with digitoxin.⁶

Cloetta's failure to publish his method of preparing Digalen places an additional burden of proof on him (or the manufacturers of Digalen), concerning the identity of the product, and in the face of Kiliani's denial of the correctness of Cloetta's contention we must have strong corroborative evidence of Cloetta's claim before we can accept it as being established.

The difficulties of dealing with the chemistry of digitalis are so well known that they hardly require further mention here, but under the circumstances Cloetta cannot be considered as being wholly unprejudiced, and, while the same might perhaps be said of Kiliani, such evidence as can be deduced tends strongly to support Kiliani's view, and to disprove the contention of Cloetta.

There is much confusion regarding the names which have been applied to the various principles obtained from digitalis, and while it is undesirable that an established name should be given to a newly discovered principle, one might overlook this if no effort were made to associate the therapeutic actions of the two substances to an extent which the truth did not justify.

While the Council at that time did not challenge the existence of "amorphous digitoxin" and made no attempt to determine the identity with digitoxin of the substance forming the basis of Digalen, the manufacturers of Digalen have sought to show that Digalen and digitoxin were identical so far as their therapeutic actions were concerned, but that Digalen lacked the disadvantages of digitoxin. What was a purely academic question when the acceptance of Digalen was under discussion by the Council becomes a matter of very great practical importance when the manufacturers of Digalen seek to mislead the physician by these claims.

The evidence which lends support to the view that Digalen and digitoxin are wholly dissimilar may be summarized as follows: Digalen differs greatly in its physical properties from digitoxin and in certain of its physiologic actions, as the manufacturers themselves state, Digalen being amorphous, and soluble in water, while digitoxin is crystalline and insoluble in water. The manufacturers state that Digalen differs from digitoxin in certain of its physiologic actions, but the two substances do indeed differ far more than they admit.

Cloetta and the manufacturers of Digalen lay especial stress on the claim that Digalen is cumulative to a far less extent than digitoxin, and that it has far less tendency to cause gastric disturbance than the latter. The first of

5. Kiliani: München. med. Wehnschr., 1907, p. 886.

6. Kiliani: Am. Jour. Pharm., 1913, lxxxv, 224.

these claims is true; the second is the very opposite of the truth, as we shall show.

We know nothing of the structure of any of the digitalis principles, and even though one were to admit (purely for the sake of argument) that Digalen and digitoxin were chemical isomers, that fact could not be taken to lend any support to the contention that the two substances were identical, in the face of the established fact that they differ physically and physiologically in nearly every particular, and agree only in that they both cause standstill of the heart in the same way—an action possessed also by so dissimilar a substance as barium.

The manufacturers of Digalen support the claim of the identity of their product with digitoxin by stating that "Digalen is a solution of the most active glucoside of digitalis."⁷ Of course, it is very generally admitted that digitoxin is the most active principle of digitalis, though there is some question concerning its glucosidal nature.

Digalen is in fact far less active than digitoxin, as has been shown by a number of independent observers* (Worth Hale, 1910; Hatcher and Brody, 1910; Neave, 1907; Miller, 1908; the referee; Weis, 1912).

The essential fact which appears from the investigation of Weis is that *Digalen did not behave like digitoxin in any case.*

Hale also found that Digalen gave atypical actions in which the effects on the central nervous system became prominent. The referee can corroborate these observations of Hale's on frogs, but the convulsive symptoms were prominent with some specimens of Digalen on mammals, though not with others, the more recent specimens of the preparation showing the action prominently.

The results of all these biologic test, as well as of the physical tests made by Weis, certainly lend no support to the contention of Cloetta that the potent constituent of Digalen is identical with digitoxin, but, on the contrary, they show conclusively that the two substances differ widely in many essentials, and the continued claim of the manufacturers that the "amorphous digitoxin" said to be contained in Digalen is the same as digitoxin, or that it is the most active glucosid of digitalis, can be considered only as misleading, and therefore in conflict with the rules of the Council.

CONSTANCY OF COMPOSITION AND ACTIVITY

The manufacturers of Digalen continue to claim that it is of constant and uniform activity,¹⁴ and they imply this even when they do not state it in those words; for example, a substance cannot be considered reliable if it is variable in activity. "Digalen is Absolutely Reliable. It is Standardized and consequently always uniform. It does not produce gastric disturbances."

7. Clinical Suggestions and Reports, December, 1912, p. 24.

* Owing to lack of space a portion of the report is here omitted. A detailed discussion of these results is included in the full report contained in the reprint.

14. Advertisement Brit. Med. Jour., April 26, 1913.

That the foregoing is absolutely untrue can be shown abundantly. Hale¹⁵ found digalen not to be uniformly stable; Weis found very different degrees of activity for Digalen in the liquid and tablet forms, the tablets being but one-third as active as the liquid, and the referee found very great variations in the activity of different specimens of Digalen, one specimen being almost inert. The results obtained by Miller show that Digalen is sometimes very slightly active, or not at all so.

The foregoing citations show conclusively that Digalen is not of uniform activity. When *reliability* is claimed for Digalen in contrast to the known variability of digitalis, it must be considered as tantamount to the claim that Digalen is not subject to such variability and it must be held that the manufacturers make misleading statements when they assert that Digalen is absolutely reliable.

The manufacturers claim that Digalen does not produce gastric disturbances (see advertisement cited).

It is quite true that when small doses of Digalen are used therapeutically it fails to produce gastric disturbances because it is of such slight activity, as previously stated, but when it is used in amounts which correspond in activity to such doses of the ordinary galenical preparations of digitalis as commonly cause nausea and vomiting it does cause gastric disturbances quite as readily as the latter.

Among the clinicians who have found that Digalen causes gastric disturbances may be cited: Veiel,¹⁶ Mueller,¹⁷ Eichhorst¹⁸ and Teichmann.¹⁹

Eggleston and Hatcher²⁰ compared the emetic and cardiac activity of Digalen and numerous other digitalis bodies and preparations and found that the emetic activity of Digalen was decidedly greater in proportion to its cardiac (or therapeutic) action than was that of digitalis or digitoxin.

In the absence of any evidence to controvert this clinical and experimental evidence, the continued claim that Digalen does not disturb the stomach must be looked on as deliberate misrepresentation.

MISLEADING THERAPEUTIC CLAIMS

The recommendation that Digalen be dismissed from N. N. R. is made with the full appreciation of the fact that the manufacturers of Digalen and their agents have repeatedly stated that they desired to comply with the rules of the Council, and that they have withdrawn several statements to which the Council has taken exception, but the fact remains that despite these reiterations the advertisements of Digalen continue to embody statements which the Council can only consider misleading.

15. Hale: Hyg. Lab. Bull., 74.

16. Veiel: München. med. Wchnschr., 1906, liii, 2140.

17. Mueller: München. med. Wchnschr., 1909, lvi, 904.

18. Eichhorst: Deutsch. med. Wchnschr., 1905, xxxi, 49.

19. Teichmann: Therap. d. Gegenw., 1907, xlviii, 199.

20. Eggleston, Cary, and Hatcher, Robert, A.: The Emetic Action of the Digitalis Bodies, THE JOURNAL A. M. A., Feb. 15, 1913, p. 499.

The Council believes that the following advertisements constitute gross therapeutic exaggerations:

"Digalen a sheet anchor in pneumonia; a strong support to the heart in this deadliest of infectious diseases among adults. The prompt action of Digalen, by intravenous or intramuscular injection makes it possible to save lives which might be otherwise hopelessly lost. The best digitalis preparation which we have at the present time."²¹

"The digitalis for children. Because its dosage can be controlled. Endorsed by pediatricists everywhere."²²

"The myocarditis of Tuberculosis so frequently encountered, especially in the advanced stage of the disease, may be controlled with the aid of Digalen. The standard digitalis preparation."²³

"Digalen is Absolutely Reliable. It is standardized and consequently always uniform. It does not produce gastric disturbances."²⁴

Digalen is not a sheet anchor in pneumonia, for there is no drug deserving such a title. Digalen has no action which other digitalis preparations lack, and cannot save lives otherwise hopelessly lost. The dosage of Digalen cannot be controlled any better than that of other digitalis preparations, since its activity is variable. We cannot control the myocarditis of advanced tuberculosis by this or any other means.

CLAIMED SUPERIORITY

Various digitalis principles, including digitoxin, digitalin (true) and digitalein, have been known for many years. Therapeutically they have been found wanting and there appears to be no basis for the continued claim that Digalen has any superiority over these several digitalis principles. On the contrary, the evidence is accumulating that Digalen has no advantage in any particular over a solution of digitalein, and misleading claims of the manufacturers and their agents certainly interfere with the formation of that calm and unbiased opinion on the part of the general practitioner, which, when applied to the non-proprietary digitalis principles has caused them to fall into disuse.—(*From The Journal A. M. A., Sept. 5, 1914.*)

DIORADIN REFUSED RECOGNITION

Report of the Council on Pharmacy and Chemistry

A preparation called Dioradin was placed on the market as a cure for consumption three years ago in Europe and somewhat later in this country. It was first submitted to the Council in July, 1911. Because of the manifestly unwarranted claims made for its use in the treatment of tuberculosis, the Council voted that the product be refused recognition for conflict with Rule 8, without at that time taking under consideration the question whether or not it was in conflict with other rules of the Council.

21. Advertisement in Am. Med., January and February, 1913.

22. Advertisement in Merck's Arch., April, 1913.

23. South. Medical Journal, January to May, 1913, inclusive.

24. Advertisement in Brit. Med. Jour., April 26, 1913.

In June, 1912, further consideration of Dioradin was requested. The American agent having promised a reform in the methods of advertising, the Council considered the available evidence regarding the identity and value of the preparation. Examination of evidence regarding the composition of Dioradin—claimed to consist of radium chlorid, iodoform and menthol in an ether-oil solution—showed serious discrepancies as to the amount of radium as well as to the identity and amounts of other constituents. It was further found that the experimental evidence was insufficient and biased. Then, too, in view of the difficulty of judging the effects of medicines in tuberculosis, the clinical data were unconvincing. There was nothing to prove that the reported improvements, even if they actually occurred, were to be ascribed to the mixture as a whole rather than to any one of its constituents.

As a result of these findings, the Council voted that Dioradin be refused recognition and that the publication of these facts be authorized. In accordance with its regular procedure, it also submitted the report to the agent. In reply the agent submitted evidence which showed that he was not responsible for the misstatements about Dioradin but offered no facts that affected the Council's findings.

The entire matter having been referred to a second referee, minor modifications of the first draft of the report were authorized. Since then the Dioradin Company has submitted two reports of examinations of Dioradin made for the company in Germany showing a higher radium content than that previously found. These reports do not alter the facts brought out in the report of the Council that the composition of Dioradin has been variable, which past variability arouses a feeling of uncertainty or lack of confidence. In view of this the amended report was ordered published and appears below.

W. A. PUCKNER, Secretary.

FIRST SUBMISSION OF DIORADIN .

Dioradin, a preparation for the treatment of consumption originated by Dr. R. de Szendeffy, Budapest, Hungary, was submitted to the Council by Louis Gero, Ltd., New York, with the following statement of composition:

"A radio-active preparation of Menthol, Iodin and Radium Barium Chlorid 1/10 of a drop; in ether solution."

A circular which accompanied the submission stated:

"Preparation No. 3 of Dioradin contains not only terpins but also iodine salts In view of the fact that emanations of the radium as well as the combinations of the evasive iodine terpins enter into the organism through the lung"

Later these indefinite statements of composition were supplemented by the following:

"In 100 c.c. there are:

- 1 gr. Iodoform.
- 5 " Menthol.
- 10 drops Radium chlorid solution (1 milligr. in 100 c.c. of water).
- 5 gr. ether.
- 90 " Oil (ol. amygd. frig. press)."

In a circular contained in the package these claims were made:

"The preparations of the Dioradin are based on the miraculous effects which scientific researches have shown in regard to the different sicknesses treated with radium.

"It is generally known that radium, even if externally employed, has proved itself to be a bactericidal remedy. Its effect is multiplied if one employs it internally even in infinitesimal doses, in consequence of its permanent action of emanation on the organism.

"The preparations of the Dioradin contain the radium itself. For this reason their antiseptic and bactericidal effect is much more intensive than with medicaments which contain only its emanation, which disappears in a short time."

In view of the general extravagance of the claims made for its therapeutic action the preparation was rejected without considering other possible conflicts with the rules of the Council.

SECOND SUBMISSION OF DIORADIN

Having been advised of the rejection by the Council of Dioradin the American agency, which in the meantime had become the Dioradin Co., requested further consideration. The Council therefore took up the subject again. After certain typographical errors had been corrected the following was now given as the composition:

"1 gram Iodoform.

5 grams Menthol.

10 drops Radium Chlorid Solution (containing 1 milligram of radium chlorid in 100 cubic centimeters of water).

5 grams Ether.

89 grams expressed oil of almond.

This liquid is put up in ampules containing one cubic centimeter of liquid."

In support of the therapeutic claims for Dioradin the American agent submitted literature consisting chiefly of articles by Dr. Bernheim of Paris. Before reporting on the requested reconsideration of Dioradin the referee directed the secretary of the Council to point out to the American agent that in the formula given, the amount of non-volatile matter should be about 90 per cent., whereas the report of the Lederle Laboratories which accompanied the request for reconsideration states that but 72.08 per cent. was found in the analysis. In reply the agent stated that he had called the attention of Dr. Szendeffy (the originator of Dioradin) to the discrepancies concerning non-volatile matter and that he felt sure the discrepancy was wholly accidental (*sic*). In a later communication the agent submitted a statement of analysis from the Lederle Laboratories of a new specimen

of Dioradin according to which the amount of non-volatile matter agreed essentially with the amount claimed by the agent.

The referee, having examined the evidence, is of the opinion that the statement of composition is misleading and that the therapeutic claims are unwarranted, thus:

DISCREPANCIES IN RADIUM CONTENT

The chief claims for its therapeutic value are based on the radium content, yet the discrepancies and contradictions regarding this are serious.

In connection with the reconsideration of this product the agent presented a certificate of chemical examination by the Lederle Laboratories in which the following statement was made as to the radio-activity:

"Examination shows the preparation to possess slight radioactivity, corresponding in activity to less than 1-10,000 of 1 milligram of radium bromid per ampule. According to the sworn statement of Dr. A. de Szendeffy, the originator of Dioradin, the preparation contains 10 drops of radium chlorid solution (1 milligram in 100 cubic centimeters of water) in 100 cubic centimeters of the preparation. This would correspond to 5-1,000 milligram of radium chlorid in 100 cubic centimeters, or about 1-20,000 of 1 milligram per ampule."

A cursory reading of this paragraph gives the impression that Dioradin possesses fully the amount of radio-activity claimed by its originator, Dr. A. de Szendeffy. This impression is greatly strengthened by the concluding paragraph of the Lederle report, which says:

"In conclusion, our examination shows that the preparation submitted to us as Dioradin possesses radio-activity, and contains a fixed oil (apparently expressed oil of almond), iodoform, menthol and ether, thus confirming the sworn statement of Dr. A. de Szendeffy in regard to the composition of this product."

On inquiry as to the method used by the Lederle Laboratories, in determining radio-activity the agent submitted a further statement of the Lederle Laboratories which describes the gamma ray test by which the determination was made and a radium value equivalent to 0.000041 mg. of radium bromid per capsule was obtained. The report then says:

"The variations of the single measurements from the mean in the case of the natural leak and the leak with the Dioradin near were so large that we did not feel justified in assigning much accuracy to the figure, 0.000041, but stated that the amount of radium per capsule could not be greater than 0.0001 mg., with the possibility of there being a much smaller amount present."

It is evident that the wording of the reports of the Lederle Laboratories is liable to give the impression that their examination confirms the claims made for Dioradin.

It is further evident from these reports that the amount of radio-active matter has not been definitely ascertained but that it is at the best very small. The unreliability of the claims for radium content of Dioradin was recently shown

by Buechner,¹ who found a specimen obtained from an apothecary to contain but 1-1,000 of the amount claimed.

VOLATILE AND NON-VOLATILE MATTER

The varying claims regarding the content of volatile and non-volatile matter throw doubt on the entire composition of Dioradin, for if the statement as to these is wrong the rest of the statement regarding composition cannot be given credence.

In the first submission of Dioradin about 89 per cent. of non-volatile matter was claimed but in the report of the analysis by the Lederle Laboratories, which accompanied the resubmission, only about 72 per cent. was found. Later the Lederle Laboratories reported that an examination of a new specimen of Dioradin had shown about 90 per cent. of non-volatile matter. The discrepancies between the composition claimed for Dioradin and that found for the product in the first Lederle report has shown that the agent was quite ignorant of the composition of the product which he was selling.

INDEFINITENESS OF THE IODIN CONTENT

The label on the trade package of Dioradin first submitted to the Council stated that the product contained iodoform; a similar statement was made in the submission of the product; the circular accompanying the first submission stated that "iodin salts" were contained in the product while the iodine content was referred to further on in this circular as "combinations of evasive iodine terpins." In Bernheim's papers, which have been used to advertise Dioradin, and which are referred to in the same circular, the iodine compound is called "iode peptonisé," which, according to information stated by the American agent to have come from Budapest, is to be translated "iodized peptone." What is the meaning of this confusion? One would naturally suppose that the preparation to be sold in this country contains iodoform in an ether-oil solution while the one used by Bernheim and Dieupart² was stated to contain an *etheral* solution of "iodized peptone." This is another mystification, for an *etheral* solution of any kind of peptone would be a novelty. The matter is of some importance, for Bernheim and Dieupart lay great stress on the difference between "peptonized iodine" and other iodine (loc. cit., p. 333) and of the superiority of *etheral* over oily solutions (loc. cit., p. 334). The American agents, however, in the second submission, state that this is all a mistake; that the Dioradin used by Bernheim is the same Dioradin which was submitted to the Council; and that this does not contain, and never did contain, the *etheral* solution of "iode peptonisé" to which Bernheim attached so great importance. Bernheim (report to Medical Congress of Lyons) himself has come to the same conclusion; for five months after his first paper he believes that the "special salt of radium" (*sic*) is the

1. Buechner: Pharm. Weekblad, March 2, 1912, p. 161.

2. Bernheim and Dieupart: Revue Internationale de la Tuberculose, May, 1911, p. 336.

principal agent; so that the "peptonized iodine" must be unimportant, and in a cablegram of July 4, 1912, he now informs the Dioradin Company that the formula was incorrectly given in his first papers "owing to my ignorance of actual composition," and that all the Dioradin used by him was of the composition stated in the submission to the Council.

While this vindicates the good faith of the American Dioradin Company, it does not clear up the mystery. The question occurs at once: What led Dr. Bernheim to make such positive statements? Was he drawing purely on his imagination? If so, why did his imagination take this peculiar special direction? Or if he did have some reason to imagine the "iode peptonisé," who supplied this reason? And if, at that time, he was given to understand by Szendeffy, who must have supplied him with the material, that it contained the iodized peptone, how can he be positive at this time, that it did not contain it? Has he actually analyzed the old material?

There is also a further question which needs to be answered. Why has Dr. Szendeffy waited until Dioradin was rejected by the Council before correcting Bernheim's serious misapprehension, in the meantime permitting the circulation of Bernheim's paper?

Until these questions have been satisfactorily answered, the element of mystery about the composition of Dioradin cannot be cleared away.

EXPERIMENTAL EVIDENCE

The available experimental evidence regarding "Dioradin" is restricted to some quotations from its inventor Szendeffy, in the paper of Bernheim and Dieupart (p. 334). These, if confirmed, would show that radium alone has practically no effect on cultures of tubercle or colon bacilli; that 0.1 gm. of "iode-menthol" (concentration not stated) checks the growth of the acid-fast organisms; and that this antiseptic efficiency can be nearly doubled by the addition of a little radium. No quantitative data are given, so that it is difficult to judge the accuracy of the observation. Granting that it is correct, it would have little bearing on the therapeutic actions of Dioradin, for there is nothing to show that the effective test-tube concentration is reached in the pulmonary tissues.

It is also claimed that the injection of Dioradin prevents tubercle infection. The referee believes that the Council and the medical profession should hesitate to accept this conclusion without further details; and these would require confirmation by unprejudiced observers.

CLINICAL EVIDENCE

The Dioradin Company submits considerable clinical data in favor of Dioradin. It must be remembered that most favorable opinions have been published, from time to time, about scores of "consumption cures," which have mysteriously lost their efficiency when their novelty wore away. There is no more reason to doubt the good faith of those who are enthusiastic about Dioradin than of those who have

been enthusiastic about other "cures." There appear to be features in the course of tuberculosis which make the judgment of therapeutic measures peculiarly difficult. It is possible that impartial clinical trials of Dioradin by tuberculosis experts appointed by the Council might facilitate judgment as to the actual efficiency of Dioradin. The referee doubts, however, whether this would advance the Council very much toward the acceptance of the substance. Such an investigation would be so lengthy that it should not be undertaken until the Dioradin Company itself has offered at least presumptive evidence in this direction, especially in view of the adverse report recently made by Cecil Wall.³ Ten tuberculous patients were treated by Wall in strict accordance with the method outlined to him by Bernheim, yet Wall concludes that none of the cases, though treated accurately in accordance with the instructions, can be quoted to justify any of the claims for the therapeutic efficiency of Dioradin. The Council cannot undertake lengthy investigations of this character until it is put in possession of data which would show to its satisfaction that such investigations would probably be fruitful.

CONCLUSIONS

From investigations made, it appears that the claims in regard to the composition of Dioradin have contained vague statements and contradictions which arouse a feeling of uncertainty and lack of confidence. Until this uncertainty is cleared away, Dioradin cannot be considered as complying with Rule 1. The experimental data are insufficient and unconvincing. Some favorable clinical reports have been submitted, but the accuracy of the observations is to be questioned and they are more than offset by the negative results observed by Cecil Wall. As might be expected, other negative results, if observed, have not been submitted and there is nothing in the manufacturer's claim to show whether the improvement reported is really due to the peculiar mixture called Dioradin or to any one of its ingredients.

It is therefore recommended that Dioradin be not accepted for New and Nonofficial Remedies. In view of the extensive advertising of this preparation and because of the admittedly incorrect statements in the earlier papers it is recommended that publication of this report be authorized.—
(*From The Journal A. M. A., Oct. 26, 1912.*)

ECHINACEA

Report of the Council on Pharmacy and Chemistry

The Council has voted to reject several non-proprietary articles and has recommended that the reasons for their rejection be given in THE JOURNAL; among these is echinacea. The following paper has been submitted by a subcommittee with the recommendation that it be published. This recommendation was adopted.

W. A. PUCKNER, Secretary.

3. Wall, C.: Brit. Med. Jour., July 20, 1912, p. 109.

Echinacea

When this drug was first introduced, it was a typical nostrum, with exaggerations regarding its therapeutic value that were somewhat more gross than usual. It was later adopted by the eclectic school without being freed from the stigmata of its origin. It was also pressed into use as the main ingredient of such proprietary preparations as Echafolta, Echthol Eusoma, etc. Efforts have been made to get the regular profession to use it in these various forms.

According to J. U. Lloyd (*Pharm. Review*, vol. xxii, p. 9-14), the introduction of echinacea into eclectic medicine is due to the efforts of Dr. H. F. C. Meyer to increase the sale of Meyer's Blood Purifier, a secret remedy containing it. The following is a literal copy of the label on this nostrum:

MEYER'S BLOOD PURIFIER

DIRECTIONS

This is a powerful drug as an Alterative and Antiseptic cases: *Rheumatism, Sick Headache, Erysipelas, Dyspepsia, Old Sores and Biles, Open Wounds, Dizziness, Scrofula and Sore Eyes.*

In case of *Poisoning by Herbs, & C.*, take the double dosis, and *Bites of Rattlesnakes* take three ounces three times a day, until the swelling is gone. This is an absolute cure within 24 hours.

After Lloyd had identified the plant, Meyer put the preparation out under another form with the following label:

ECHINACEA ANGUSTEFOLIA

This is a powerful drug as an Alterative and Antiseptic in all tumorous and Syphilitic indications; old chronic wounds, such as fever sores, old ulcers, Carbuncles, Piles, eczema, wet or dry, can be cured quick and active; also Erysipelas. It will not fail in Gangrene. In fever it is a specific; typhoid can be adverted in two to three days; also in Malaria, Malignant, Remittent and Mountain fever it is a specific. It relieves pain, swelling and inflammation, by local use, internal and external. It has not and will not fail to cure Diphtheria quick. It cures bites from the bee to the rattlesnake, it is a specific. Has been tested in more than fifty cases of mad dog bites in human and in every case it prevented hydrophobia. It has cured hydrophobia. It is perfectly harmless, internal and external.

Dose.—One half to one fluid-drachm 3 or 4 times a day.

Manufactured by H. C. F. Meyer, M.D.

PRICE, \$
Patent

PAWNEE CITY, NEB., U. S. A.

These absurd claims of an evidently ignorant man have passed into the more recent proprietary advertising matters and into much of the eclectic writings. Indeed, the seemingly impossible had been attained by even surpassing Meyer's all-but-all-embracing claims. Not content with endorsing echinacea as a positive and speedy "specific" for rattlesnake bite, syphilis, typhoid fever, malaria, diphtheria and hydrophobia, later enthusiasts have credited it with equally certain

curative effects in tuberculosis, tetanus and exophthalmic goiter, and with the power of retarding the development of cancer.

It is worth noticing—although it is not surprising—that these far-reaching claims have been made on no better basis than that of clinical trials by unknown men who have not otherwise achieved any general reputation as acute, discriminating and reliable observers. No attempt seems to have been made to verify these claims by accurate scientific methods, clinical or otherwise, although this could very easily have been done.

Not one of the eulogistic reporters and exploiters seems to have considered it worth while to determine by the simplest control experiments whether the drug possesses any bactericidal or antiseptic powers whatever. It is therefore not very strange that discriminating physicians have failed to show much enthusiasm. One of the warmest endorsers of echinacea, C. S. Chamberlain (who later became the president of the Eusoma Pharmaceutical Company), complains that he has been unable to interest regular physicians in the remedy. He reviews the statements of previous authors and reports eight cases of infection, only two being acute or extensive, in which he used it with asserted success.

In view of the lack of any scientific scrutiny of the claims made for it, echinacea is deemed unworthy of further consideration until more reliable evidence is presented in its favor.

REFERENCES

Meyer, H. F. C.: *Eclectic Med. Jour.*, 1887; Goss: *Chicago Med. Times*, 1888; Hages: *Eclectic Med. Jour.*, 1888; Shelly: *Medical Gleaner*, 1894; Lloyd, C. G.: *Eclectic Med. Jour.*, 1897; Lloyd, J. U.: *Eclectic Med. Jour.*, 1897; Lloyd, J. U.: *Pharm. Review*, xxii, 9-14; Schnitz, Elsie M.: *Wis. Med. Recorder*, 1898, ii, 202; White, J. N.: *Texas Med. News*, 1898, viii, 110-113; Stinson, J. C.: *Therap. Gazette*, 1900; Hale, E.: *Lancet-Clinic*, March, 1901; Thielen, B. F.: Echafolta, Its Uses in Dental Surgery, *Dental Reg.*, 1903, vii, 462-465; Gorse, C. A.: *New Albany Med. Herald*, 1903-4, xxii, 384; Chamberlain, C. S.: *Louisville Monthly Jour. Med. & Surg.*, 1904-5, xi, 219-223; *Lancet-Clinic*, 1905, M. S., liv, 279-283; Ellingwood, F.: *Therap. Gazette*, 1905, 3, S., xxi, 298-300; French, J. M.: *Med. Brief*, 1905, xxxiii, 537; Mathews, A. B.: *Georgia Pract.*, 1905, i, 137-140.—(From *The Journal A. M. A.*, Nov. 27, 1909.)

ECHTISIA, ECTHOL AND ECHITONE

Report of the Council on Pharmacy and Chemistry

Echtisia (Wm. S. Merrell Chemical Co.), Ecthol (Battle and Co.) and Echitone (Strong, Cobb and Co.) are proprietary preparations each of which is alleged to contain echinacea as its chief constituent. In 1909 the Council examined into the claims made for echinacea. This drug has been claimed to be a "specific" for rattlesnake bite, syphilis, typhoid fever, malaria, diphtheria and hydrophobia. Enthusiasts have credited it with equally certain curative effects in tuberculosis, tetanus, and exophthalmic goiter and with power of retarding the development of cancer. Of

course there is no reliable or trustworthy evidence to substantiate these claims. Echinacea is not often prescribed under its own name, but is employed as an ingredient in proprietary preparations mixed with other little-used or obsolete substances. Thus Ecthisia is said to contain echinacea, wild indigo, arbor vitae and poke root; Echthol, to have echinacea and arbor vitae; Ecthone, to consist of echinacea, pansy and blue flag. Naturally the manufacturers of such proprietaries make use of all available optimistic reports in promoting their sale, while each manufacturer ascribes special and peculiar virtues to the combination represented in his particular preparation. The Merrell Chemical Company claims that baptisia (wild indigo) is a "destroyer" of devitalizing elements in the blood "a vitalizer of the blood as well"; that thuja (arbor vitae) is a "perfect antiseptic and a generator of vital force in disorganized tissues," and that a long list of diseases, including diphtheria, syphilitic sciatica and gonorrheal rheumatism, "are all more or less amenable to full doses" of phytolacca (poke root). Strong, Cobb and Co. maintain that Iris versicolor (blue flag) is "one of the most powerful excitants of the biliary, salivary and pancreatic secretions," and that the "principal sphere of action of Viola tricolor [pansy] is in the gastro-intestinal canal and the skin."

There is no satisfactory evidence that the claims for any of these substances are any more reliable than those for echinacea. Notwithstanding, Strong, Cobb and Co. claim for Ecthone "not only the virtues of its constituent parts, but a wider field and a particular therapeutic value of its own"; Battle and Co., maintain that Echthol is the "Ideal Corrector" of depraved conditions of the fluids and tissues," while the Merrell Company urges the virtues of Ecthisia in a list of diseases ranging from acne to appendicitis and from gangrene to rattlesnake bite. The Council refused recognition to these three products and directed publication of reports to call attention to the exaggerated, unwarranted and often utterly absurd claims made for these and similar preparations.—(*From The Journal A. M. A., Jan. 2, 1915.*)

ERGOAPIOL*

Abstract of Report of the Council on Pharmacy and Chemistry

Ergoapiol (Martin H. Smith Co., New York) is a mixture put up in capsules, each of which is said to contain

Apiol (Special M. H. S.).....	5	grains
Ergotin	1	grain
Oil Savin	$\frac{1}{2}$	grain
Aloin	$\frac{1}{8}$	grain

* For abstract of report on a similar mixture, see Apergols, p. 26; for unabridged report of the Council's action on Apergols and Ergoapiol see Reports Council Pharm. and Chem., 1914, p. 64.

Examination discloses the fact that, contrary to the claim made, each capsule, instead of containing 5 grains of apiol, really contains some liquid preparation of the type of oleoresin of parsley seed. Ergoapiol is recommended (on the label) for such diseases as "Amenorrhea, Dysmenorrhea and other Menstrual Disorders," while a circular enclosed in the package contains many suggestions that may be counted on to lead to its indiscriminate and uncritical use.

Ergoapiol is an unscientific, shot-gun mixture of drugs having widely different therapeutic effects. Where the action of parsley is desired, the effects of ergot would ordinarily, be contra-indicated; furthermore, neither aloin or savin would be called for in conditions that demanded the effects of apiol. It would be impossible to predict the action of a mixture of this kind in the varying conditions for which its use is advised by the manufacturers. To combine four drugs of dissimilar action in fixed proportions for the routine treatment of conditions which have little in common except that they involve the female generative organs, is unscientific and absurd. The Council refused admission to Ergoapiol.—(*From The Journal A. M. A., Dec. 12, 1914.*)

ERPIOL (DR. SCHRADER)

Report of the Council on Pharmacy and Chemistry

The original rules of the Council governing the acceptance of articles have recently been modified, particularly by adoption of Rule 10, which reads:

"Unscientific and Useless Articles.—No article will be admitted which, because of its unscientific composition, is useless or inimical to the best interests of the public or of the medical profession."

In view of these modifications, the Council is reconsidering the articles already accepted with the view of determining their compliance with the rules as amended. In line with this the Council reconsidered Erpiol (Dr. Schrader), manufactured by the William S. Merrell Chemical Company, and from the evidence given below concluded that one of the constituents, gossypin, is inert and its use unscientific. The Council therefore voted that Erpiol (Dr. Schrader) be omitted from New and Nonofficial Remedies and authorized publication of the following report.

W. A. PUCKNER, Secretary.

Erpiol

In consequence of the more thorough scrutiny now given by the Council to the therapeutic value of the remedies admitted to New and Nonofficial Remedies, the Council has reconsidered Erpiol (Dr. Schrader), previously accepted for New and Nonofficial Remedies. Erpiol (Dr. Schrader) is

the name applied to capsules containing apiol, ergotin and gossypin, which are sold as an emmenagogue. The first two ingredients have a recognized value in the treatment of diseases of the female generative organs. The third, gossypin, is a preparation from cotton-root bark, belonging to the somewhat indefinite class of pharmaceutical preparations known as resinoids.

Cotton-root bark (*Gossypii radidis cortex*, U. S. P.) has been credited by some with pharmacologic and therapeutic properties, similar to ergot, especially in its action on the uterus; experiments on pregnant animals do not confirm this view. Most authorities on gynecology either make no reference whatever to the drug or ascribe little or no value to it. The preparations from the dried bark are inert.

From reports made to him, Professor J. U. Lloyd concluded (*Eclectic Med. Jour.*, 1876, xxxvi, 545) that a prime fluidextract of fresh cotton-root bark is an active therapeutic agent and deserving the attention of the medical profession, while that of the dry bark is inert and worthless. The gossypin on the market is made from the dried bark.

Professor Lloyd, who is considered an authority on eclectic medicine, says: "Were it left to me to admit or exclude it, by reason of its therapeutical position, I should exclude it, because, in my opinion, it has never been demonstrated, in clinical practice, to be worthy of any therapeutic recognition whatever."

As the available evidence indicates that gossypin is an inert preparation, Erpiol (Dr. Schrader) was considered in conflict with Rule 10 and the Council has therefore voted that it be deleted from New and Nonofficial Remedies. —(*From the Journal A. M. A.*, June 3, 1911.)

FALSE UNICORN (HELONIAS)

Report of the Council on Pharmacy and Chemistry

The Council voted to refuse to recognize false unicorn as a non-proprietary article and the following statements, submitted by a subcommittee, were ordered published.

W. A. PUCKNER, Secretary.

False Unicorn—Helonias

Helionas dioica, or more properly *Chamælririum luteum*, is a plant, preparations of which enter into various proprietary mixtures for diseases of the female pelvic organs. In the advertisements of these preparations it is usually credited with hemostatic powers and is asserted to be a uterine tonic.

There is practically no reference to this drug in reliable medical literature, and as there is no evidence worthy of credence to support the claims made for it, the drug was not

considered deserving of a place in the Pharmacopeia. Hence, it may be regarded as a drug not worthy of attention of physicians.—(*From The Journal A. M. A., Nov. 27, 1909.*)

FORMUROL

Report of the Council on Pharmacy and Chemistry

Formurol, Citrocoll and Aspirophen were submitted to the Council by the Cellarius Company of San Francisco. The manufacturers having failed to substantiate the claims they make for these products, the Council has voted that the preparations be refused recognition. The Council also authorized the publication of the following report, which deals particularly with one of the preparations—Formurol.

W. A. PUCKNER, Secretary.

Formurol is the product of the Chemische Fabrik Falkenberg, Falkenberg-Gruenau, near Berlin, Germany. The Cellarius Company, San Francisco, acting as selling agents for the United States, submitted Formurol (along with Aspirophen and Citrocoll, also made by the same firm) to the Council, with the statement that it is "hexamethylenetetraminsodium-citrate," and that it has the following composition: " $C_6H_7O_7Na.C_6H_{12}N_4$."

Zernik,¹ who examined these products, reported that Aspirophen, Citrocoll and Formurol do not have the composition that is claimed for them by the Fabrik Falkenberg. Formurol, he states, is not a definite chemical compound, but a mixture of hexamethylenamin and sodium citrate. The agents were advised of this fact by the Council and were asked to submit evidence to substantiate their claims. No such evidence was submitted.

Since a compound having the composition that is claimed for Formurol is theoretically possible, the Council requested that the product be examined in the Association Laboratory to determine whether it still was the simple mixture reported by Zernik, or whether, perhaps, it now possessed the formula claimed for it. The following report was made by the Association chemists:

Formurol, as submitted to the Council, was in the form of tablets weighing about 1 gm. each and appeared to be composed of a fine white substance interspersed with some transparent particles. The tablets were readily soluble in water, were odorless and possessed a slightly acid taste. The aqueous solution responded to tests for hexamethylenamin, citrate and sodium. To determine whether hexamethylenamin was present in the free or the combined state, the method of Zernik was employed. This consists in the extraction of Formurol with chloroform, which dissolves out hexamethylenamin, leaving insoluble

1. Zernik: *Arb. a. d. Pharmazeut. Inst. d. Univ. Berlin*, 1907, iv, 46.

sodium citrate. As the use of the solvent, chloroform, would seem to preclude decomposition of such a hypothetical compound as "hexamethylenamin-sodium-citrate," the extraction of hexamethylenamin from Formurol may be taken to demonstrate its presence in the free state.

That Formurol is not a compound of hexamethylenamin, but a mixture of hexamethylenamin and sodium citrate, was further indicated by the appearance of the crushed tablets described above. Further, on the low-power microscope the powder was found to be composed of transparent crystals and white opaque particles which appeared to be masses of minute crystals. When treated with chloroform the transparent crystals dissolved, leaving the white masses intact, demonstrating the presence of two distinct substances, one soluble and the other insoluble in chloroform. It having been demonstrated that the residue obtained by evaporation of chloroform could not be weighed as hexamethylenamin, due to enclosed chloroform, the amount of this substance in the residue was determined.

The method used has been described in the Report of the Chemical Laboratory of the American Medical Association, Vol. I, p. 55, and depends on the decomposition of hexamethylenamin by means of sulphuric acid to form ammonium sulphate and formaldehyd. From this solution the ammonia is liberated, distilled and determined by titration and from the ammonia found the amount of hexamethylenamin is calculated. By this method Formurol was found to contain (a) 35.42 per cent. and (b) 35.32 per cent., or an average of 35.37 per cent. hexamethylenamin. The residue insoluble in chloroform was shown to consist essentially of disodium hydrogen citrate by determining the amount of sodium (Na) contained in Formurol. The percentage of sodium calculated from the amount of sodium sulphate found was (a) 11.38 per cent. and (b) 11.20 per cent., or an average of 11.29 per cent., equivalent to 62.50 per cent. disodium hydrogen citrate.

As a check on this determination, the amount of material contained in Formurol which is insoluble in chloroform was determined. It was found to be (a) 63.23 per cent. and (b) 63.49 per cent., making an average of 63.36 per cent., and thus agreeing fairly well with the results obtained when the sodium content was assumed to be disodium hydrogen citrate. From this analysis it appears that Formurol is not a definite compound of hexamethylenamin and sodium citrate, but instead is a mixture of these substances consisting approximately of hexamethylenamin 35.37 per cent. and sodium acid citrate (disodium hydrogen citrate) 63.36 per cent., practically a mixture of 1 part hexamethylenamin and 2 parts sodium acid citrate. These results agree with those reported by Zernik² and show that the product now, as then, is not true to claims.

In view of the findings of the laboratory, it is recommended that Formurol be refused recognition. As the exploitation of well-known remedies under false and misleading names is detrimental to the progress of medicine, it is recommended that publication of this report be authorized.

[EDITORIAL NOTE: This report illustrates once more the value of the Council on Pharmacy and Chemistry and the Chemical Laboratory to the medical profession. Before the Council was organized there was no agency to protect the physician's interests in the matter of pharmaceuticals. Under the old régime Formurol would have been heralded as a new "synthetic" of the most approved made-in-Germany type—and the claims would have gone unchallenged. To-day its status is made clear and the profession is informed. Only those who have closely studied the question can realize what a wonderful power for commercial probity the Council has proved. Under the *laissez faire* system of the past, many large pharmaceutical firms gave little attention to the accuracy of the claims made for their products. If the advertising gave good "pulling" results, that was all that was asked or expected. Within the past five years a wonderful change has taken place in this regard, and firms of the better class have so modified their advertising as to make it not only conservative in tone, but to approximate scientific accuracy.]—(From The Journal A. M. A., Jan. 21, 1911.)

GASTROGEN TABLETS

Report of the Council on Pharmacy and Chemistry

The Bristol-Myers Co., Brooklyn, N. Y., sells Gastrogen Tablets which are described as "A Neutralizing Digestive" to be "used in connection with Sal Hepatica." Sal Hepatica, it will be remembered, is another product of the Bristol-Myers Company and has been the subject of previous unfavorable comment. The label on a recently purchased package of Gastrogen Tablets contains the following:

"For gastric distress, weak stomach and dyspepsia, one to two tablets after eating; repeat in half an hour if needed.

"Also indicated in nausea, flatulence, sour stomach and heartburn."

While these recommendations sound as if they were addressed to the public, Gastrogen Tablets are advertised in medical publications and hence come within the scope of the Council. Gastrogen Tablets are said to be composed of pepsin, calcium carbonate, calcium phosphate and "aromatics." As each tablet, according to the label, contains 7 grains of calcium carbonate (chalk), the recommended dosage would in most cases be sufficient to neutralize the gastric fluids in the stomach and would thus tend to prevent the pepsin from exerting its digestive effects. The means adopted to relieve one symptom of dyspepsia, in other words, defeats the action of the means for relieving the indigestion. The fact is that patients who need an antacid do not need pepsin, while those who need pepsin will be harmed by the administration of an antacid. Gastrologists hold that, except in rare cases, the

evidence tends to show that wherever there is a sufficiency of hydrochloric acid there is a sufficiency of pepsin. When pepsin is lacking it should be administered along with hydrochloric acid to make it effective. The Council voted that Gastrogen Tablets be refused recognition.—(*From The Journal A. M. A., Dec. 12, 1914.*)

GLYCO-HEROIN, SMITH

Report of the Council on Pharmacy and Chemistry

The following report was submitted to the Council by a referee and publication authorized.

W. A. PUCKNER, Secretary.

Glyco-Heroin, Smith (Martin H. Smith Co., New York) is marketed in a showy "patent-medicine" type of package, the label on which announces the presence of $\frac{1}{2}$ grain of heroin to the fluidounce and admits the presence of 3.5 per cent. alcohol, an active ingredient that is not discussed in any way in the literature sent out by the manufacturer.

The composition of Glyco-Heroin, Smith, is given as follows: "Each teaspoonful represents: Heroin $\frac{1}{16}$ grain, White Pine Bark $3\frac{1}{2}$ grains, Ammonium Hypophosphite 3 grains, Balsam Tolu $\frac{1}{4}$ grain, Hyoscyamus 1 grain, Glycerin Q. S." The alcohol is not mentioned in the formula.

The advertising matter says of the merits of the formula:

"Despite the fact that heroin, which is universally recognized as an invaluable respiratory sedative, is a conspicuous element of Glyco-Heroin, Smith, the other constituents, henbane, ammonia hypophosphite, balsam tolu and white pine bark are factors of no less importance; indeed, it is through the concerted action of its several ingredients that the preparation proves so notably beneficial in the class of affections in which it is indicated. The constantly increasing popularity of the preparation in the treatment of respiratory affections is the best adducible evidence of its value in such disorders."

The absurdity of this assertion will be appreciated on comparing the nature, quantities and activities of the several ingredients. Thus, while heroin, a potent habit-forming drug, is present in unusually large proportions, tolu, an innocuous or comparatively harmless product, is said to be represented by $\frac{1}{4}$ grain, a relatively small quantity, hardly sufficient to impart even a distinctive taste or flavor. Ammonium hypophosphite, in the amount said to be present, may be considered to be practically useless, while the dose of hyoscyamus, an additional narcotic, is fairly large. The white pine bark present is probably as active as would be a corresponding amount of white pine shavings or of turpentine sufficient to give the preparation a slight odor. The vehicle, glycerin, is claimed to be "notably advantageous," but not a word occurs in the discussion by the manufacturer in regard to the presence of alcohol, which is certainly quite as active medicinally

as the balsam of tolu and contributes fully as much to the flavor or taste of the preparation as does the white pine bark.

In prominent type on the outer label of the trade package we are told that the preparation is intended for the treatment of "COUGH, ASTHMA, PHTHISIS, PNEUMONIA, BRONCHITIS, LARYNGITIS, WHOOPING-COUGH AND KINDRED AFFECTIONS." In much smaller type: "Glyco-Heroin (Smith) is distinctly a product designed expressly for the use of physicians." The circular included with the trade package, however, bears statements which would tend to encourage self-drugging by the layman, and in view of the manner in which the preparation is exploited are undoubtedly intended to do so. For instance:

"Bronchitis.—In the acute form of bronchitis, Glyco-Heroin (Smith) acts most happily. It tends to diminish the congestion and inflammation of the lining of the air passages, relieves the pain and institutes repair. . . .

"Phthisis.—In the treatment of the cough of phthisis, Glyco-Heroin (Smith) is used with the most gratifying results. It checks the night sweats, acts favorably upon the reflexes, increases expectoration and induces refreshing sleep.

"Asthma.—The preparation diminishes the intensity of the paroxysms and lengthens the intervals between their recurrence. By the administration of the preparation, asthmatic attacks can frequently be aborted.

"Pneumonia.—In the initial stage of pneumonia, the preparation exercises a calming, antipyretic and sedative effect. In the latter stages of the disease, the analgesic and expectorant properties of the product are well displayed.

"Whooping-Cough.—Administered in doses of from five to ten drops this preparation affords surprisingly satisfactory results. The cough rapidly loses its spasmodic character and the frequency of the paroxysms is considerably diminished."

How cruelly misleading the literature put out by the manufacturer of this nostrum is, will be apparent from a comparison of the rather large dose of heroin in a teaspoonful of the nostrum and the directions on the package that:

"The adult dose of Glyco-Heroin (Smith) is one teaspoonful repeated every two hours or at longer intervals, as the case may require.

"Children of 10 or more years, from a quarter to a half-teaspoonful.

"Children of 3 years or more, 5 to 10 drops."

A WICKED FALSEHOOD

Included in much of the advertising matter that has been put out is the bare-faced untruth that the preparation does not produce narcotism or habituation. Here is a quotation from an undated circular:

"Glyco-Heroin (Smith) is decidedly preferable to preparations containing codeine or morphine, by reason of the fact that it does not produce narcotism, constipation, gastric disturbance nor habituation, even though its administration be protracted."

That this assertion is not in keeping with facts is evidenced by the recent report of a study on the sale and use

of heroin made by the U. S. Department of Agriculture. From the information gathered it appears that the sales of heroin and heroin-containing preparations have increased greatly, particularly in those states which have rigid laws preventing the indiscriminate sale of morphin and cocain. Investigation of the subject establishes the fact that many drug victims who formerly used morphin and cocain, and who under the new laws find it difficult to obtain these substances, have begun using heroin, the sale of which is not as yet carefully restricted under state laws. The drug is said to be fully as dangerous as morphin, and by many is held to be much worse, for the reason that it occasionally kills the victim outright, and its habitual use is far harder to overcome than that of other drugs.

Phillips,¹ in discussing the prevalence of the heroin habit, reports, among others, the case of a physician aged 60 who began to take heroin because he suffered from a chronic cough and thought there was no danger of habit from the use of this drug because he believed the statements of various manufacturing firms who claimed that there was no danger of habit.

In a pamphlet now being distributed to the medical profession, entitled, "Glyco-Heroin (Smith), an exposition of its components together with references to its value in the treatment of Bronchitis, Cough, Cough of Phthisis, Laryngitis, Pneumonia and allied disorders of the Respiratory Tract," the several alleged uses of the nostrum in the treatment of cough, "Regardless of the nature of its underlying cause, . . . whether of recent origin or of long duration," are discussed at length, and eminent practitioners with degrees extending the width of the printed page are quoted in support of the statements made. While it may be permissible for a theoretically trained medical tyro who lays claim to the right of appending the abbreviations M.A., M.D., D.C.L., L.R.C.P. to his name to laud a heterogeneous habit-forming cough-syrup like Glyco-Heroin, Smith, similar testimonials from a man entitled to append Ph.G., M.S., M.D. to his name makes one doubt the value of the training, either scientific, pharmaceutical or medical, that has been given the poor unfortunate who, according to his own statements, indiscriminately doses a female patient of 7 and a male patient of 40 with huge doses of heroin every two, four or six hours.

The danger of contributing to the spread of the heroin habit by the use of preparations of this type is indicated by an editorial in *THE JOURNAL* of the American Medical Association,² which points out that although heroin and its hydro-

1. Phillips, John: Prevalence of the Heroin Habit, *THE JOURNAL A. M. A.*, Dec. 14, 1912, p. 2146.

2. Facts about Heroin, Current Comment, *THE JOURNAL A. M. A.*, Dec. 21, 1912, p. 2262.

chlorid have been in use but a few years they have already established themselves among the habit-forming drugs and have become sufficiently conspicuous in this respect to awaken the thinking public to the deplorable results for which they may become responsible. Phillips,¹ in the article mentioned above, quotes Petty, who reports that in the last 150 cases of drug habit coming under his care he saw eight cases of heroin addiction. Three of these were initial cases; in one the patient had been cured of the opium habit, but following an operation heroin was prescribed, and the habit followed. The remaining four patients purposely substituted heroin for morphin, to which they had been addicted.

THE GROWTH OF HEROIN ADDICTION

The imminent danger of substituting heroin for either morphin or cocain is shown by the fact, reported by the U. S. Department of Agriculture, that during the early months of 1913 the coroner's office in Philadelphia County, Pa., held inquests on five sudden deaths from heroin poisoning. In each case the victim was a heroin fiend and took an overdose. Drug fiends are apparently able to consume relatively large quantities of morphin or cocain, but any sudden and material increase in the amount of heroin taken is liable to prove fatal. As indicating the wide sale of this substance, it is known that one druggist in Pennsylvania whose store is located in an undesirable section of his city has been buying heroin tablets in 25,000 lots.

GLYCO-HEROIN, SMITH, A "PATENT MEDICINE"

The popularity of Glyco-Heroin, Smith, as a household nostrum is suggested by the fact that one of the larger department-store type of drug-stores in the city of Philadelphia lists this preparation in its "patent-medicine" catalogue at \$1.75 per bottle and sells it freely to all who care to buy. This is due to the fact that Pennsylvania, like many other states, does not include heroin in the prohibited list of habit-forming drugs that can be supplied only on physicians' prescriptions.

To what extent Glyco-Heroin, Smith, is responsible for developing the rapidly growing heroin habit is of course problematic. It is reasonable, however, to suppose that a preparation, each teaspoonful of which contains so large a dose of heroin as does this nostrum, when taken as repeatedly and as indiscriminately as is directed by the manufacturer, would offer possibilities for harm sufficient in number to induce the thinking medical practitioner to avoid its use altogether and at least to suggest to even the most commercial dabbler in the healing art the desirability of carefully considering its potency for harm before endorsing its use in the treatment of "cough and kindred affections."—(*From the Journal A. M. A., June 6, 1914.*)

GLYCO-THYMOLINE

Report of the Council on Pharmacy and Chemistry

The Council, having voted that Glyco-Thymoline be refused recognition, authorized publication of the following report.

W. A. PUCKNER, Secretary

Glyco-Thymoline (Kress and Owen Company, New York) is a typical example of a "patent medicine" advertised to the public through the doctors. Bottles of the mixture with the name blown in the glass are issued to physicians for distribution to patients, and the circular which comes around the bottle more or less directly recommends it for use in almost every form of infectious disease.

COMPOSITION AND VARYING FORMULAS

Different formulas for Glyco-Thymoline have appeared. At one time it was said to contain:

"Sodium 24, Boric Acid 4, Benzoin 4, Acid Salicylic 0.33, Eucalyptol 0.33, Thymoline 0.17, Betula Lenta 0.08, Menthol 0.08, Pini Pumilionis 0.17, Glycerin and solvents, q.s."

Another formula, which appeared about the same time, was:

"Benzo-Salicyl. Sod. 33.33, Eucalyptol 0.33, Thymol 0.17, Salicylate of Methyl from Betula Lenta 0.16, Pini Pumilionis 0.17, Glycerin and solvents q.s."

A later formula was like the second except that it included "Menthol, 0.08."

Analysis in the chemical laboratory of the American Medical Association showed that Glyco-Thymoline contained borax, but no boric acid; sodium salicylate, but no salicylic acid; sodium benzoate, but no benzoin; the compound benzo-salicyl. sod. could not be determined, but a mixture of sodium benzoate and sodium salicylate was demonstrable.¹ Later Puckner pointed out² that while such a combination as benzo-salicylate of sodium is known, it could not possibly be present in Glyco-Thymoline because the alkalinity of this mixture would decompose the compound. As the manufacturers evidently recognize that false formulas can no longer be made plausible, only vague statements as to the composition are now offered.

Two points should be noted in this connection:

1. Glyco-Thymoline conflicts with Rule 1 of the Council on Pharmacy and Chemistry, which declares that no article shall be accepted for inclusion with New and Nonofficial Remedies unless its composition be furnished.

1. The Formula for Glyco-Thymoline, Pharmacology Department, THE JOURNAL A. M. A., Jan. 9, 1909, p. 147.

2. Puckner, W. A.: Rep. Chem. Lab., A. M. A., 1910, iii, 7.

2. No matter which published formula be accepted as correct, it is at best a weak antiseptic. The antiseptic ingredients present cannot act as germicides in the strength in which they are used, or in the alkaline solution on the unique virtues of which the circular lays so much stress ("the one antiseptic solution based on the alkalinity and saline strength of normal blood"). As shown by Verhoeff and Ellis,³ undiluted Glyco-Thymoline does not kill *Staphylococcus aureus* in four hours. It evidently, they say, "could have but little if any greater therapeutic value than sterile salt solution."

DANGEROUS RECOMMENDATIONS

In Diphtheria: "Case-reports" in the advertising pamphlet describe the treatment of diphtheria with Glyco-Thymoline. It is surely unnecessary to point out that, whatever the possible merits of Glyco-Thymoline or its ingredients, they are utterly irrelevant here. But let a "case-report" be quoted:

"....., M.D., states: 'I have many an interesting story of Glyco-Thymoline. I just finished up a family in which I was treating five cases of diphtheria—two of which presented diphtheritic membrane in nasal cavity. I decided not to use antitoxin in these cases. I used only the regular constitutional treatment and Glyco-Thymoline as a local antiseptic. I believe the Glyco-Thymoline worked wonders. My cases are all now in good health, with no after troubles. I think it an ideal antiseptic for every trouble in nose and throat.'"

Words of denunciation fall flat before the complacent self-revelation of the physician who "decided not to use antitoxin." Surely if any other physicians have been misguided by this example, there must be many another "interesting story of Glyco-Thymoline" to tell—not to speak of other families that have been "finished up."

In Ophthalmia Neonatorum: We gain from the same advertising pamphlet the following information on prophylaxis:

"The treatment in the past has consisted of instillation of silver nitrate, boric acid, salts of mercury, nucleinated salts of silver and mercury, etc. . . ., but these agents have proved to be failures as an absolute specific. . . . During the past few months experiments have demonstrated the efficacy of a new mode of treatment that is both rapid and thorough, and devoid of danger in its use. This method consists of thorough irrigation of the eyes in fully developed cases of the disease with a solution of Glyco-Thymoline."

At the very best, Glyco-Thymoline is a weak, a very weak antiseptic—not a germicide. To assert, or even to imply, that it is superior to the well-tried and efficacious Cr  d   method of treatment for ophthalmia in the new-born is cruelly wicked.

3. Verhoeff, F. H., and Ellis, Edward Keith: The Bactericidal Values of Some Widely Advertised Antiseptics, *THE JOURNAL A. M. A.*, June 29, 1907, p. 2175.

In Consumption: This from the same pamphlet:

"The indifference of phthisical patients toward the maintenance of sanitary conditions is proverbial.

"That the environment of all such patients should be absolutely aseptic both for the good of the patient and for the welfare of those who are brought into contact with them is a well-established fact."

It is, instead, an ill-established fiction. To talk about maintaining an "absolutely aseptic" environment under any practical conditions of daily life is to talk nonsense; the thing is impossible, even were it desirable. But, not to be distracted from the main issue by subsidiary falsehoods:

"In Glyco-Thymoline we have an antiseptic which, while mild and soothing . . . is still a powerful agent for promoting asepsis, and a potent factor in the maintenance of sanitary environment in the sick room.

"Inhaled from a vaporizer or a fine spray atomizer, it will loosen the mucus in a marvelous manner and in a wonderfully short time, shorten the paroxysms of coughing to a marked degree, at the same time reducing the danger of contagion to a minimum."

And this is the preparation, it will be remembered—this "powerful agent for promoting asepsis"—which, when applied in undiluted strength, was unable to kill *Staphylococcus aureus* in four hours!

It would be a waste of space to cite further evidence to show that the advertising of Glyco-Thymoline is in conflict with Rule 6 of the Council, which provides that no article shall be accepted "concerning which the manufacturer or his agents make unwarranted, exaggerated or misleading statements as to the therapeutic value." It is further in conflict with Rule 4, against indirect advertising by means of the label, package or circular accompanying the package.

CLAIMS TO ORIGINALITY

Hatcher and Wilbert have pointed out that from a therapeutic point of view the composition of Glyco-Thymoline is based on the formula of the widely known "compound solution of sodium borate," or Dobell's solution. For the phenol in the original, a mixture of antiseptic acids and volatile oils has been substituted.

SUMMARY

Glyco-Thymoline is in conflict with Rules 1 and 4 of the Council on Pharmacy and Chemistry, because of its indefinite composition and the method of advertising it to the public. It is in conflict with Rules 10, 6 and 8, in that it is an unscientific, shot-gun mixture sold under unwarranted therapeutic claims and under a misleading name. Altogether it must be considered an unscientific heterogeneous mixture, in which a few valuable ingredients are hidden by the useless shrubbery which surrounds them.—(*From The Journal A. M. A., Oct. 10, 1914.*)

GLYCOZONE

Report of the Council on Pharmacy and Chemistry, with
Comments

A number of specimens of Glycozone purchased in the open market were examined by a subcommittee. The product was found to be a mixture of approximately 90 per cent. glycerin, 5 per cent. glyceric acid, a small amount of water and traces of undetermined matter. The absence of hydrogen peroxid or other peroxids was demonstrated.

In its report the subcommittee held that: (1) The name of the product is objectionable and misleading; (2) the statements made in regard to its composition also are misleading; (3) the claims for its therapeutic value are exaggerated and untrue. Since the objectionable statements have been given wide publicity among physicians as well as among the laity, the subcommittee recommended that attention should be called to the matter in *THE JOURNAL*.

The report of the subcommittee was adopted by the Council.

W. A. PUCKNER, Secretary.

COMMENT:—While the name gives the impression that ozone or some similar substance is an essential constituent of Glycozone, or else that the preparation is a compound or derivative of ozone, and while the earlier advertisements stated that Glycozone was "glycerine combined with ozone," the examination made by the Council shows that there is no basis of fact for such inferences.

In the advertisements the "chemical formula" $C_3H_6O_4 + C_3H_5O_3$ appears under the word Glycozone. From the Council's report it is apparent that $C_3H_6O_4$ stands for glyceric acid and the $C_3H_5O_3$ for glycerin, and that these, therefore, indicate the chief constituents of Glycozone. Few, doubtless, would recognize the first formula as being that of a glyceric acid, a product practically unknown in medicine, nor would many associate glycerin with the second. The evident intent is that physicians should accept the formula as a badge of respectability.


According to the label on a trade package, Glycozone is "prepared only by Charles Marchand, chemist," and is an absolute cure for dyspepsia, catarrh of the stomach, ulcer of the stomach, heart-burn," etc. The label further reads: "This remedy is positively harmless. By destroying the microbian element in the stomach it prevents the fermentation of food and stimulates digestion." An examination of medical literature fails to reveal any basis for these claims. While glycerin possesses some antiseptic properties, it is evident that the glycerin which constitutes 90 per cent. of this remedy is not the agent that gives the glycozone such phenomenal virtues. General literature contains nothing that

would indicate that glyceric acid in any quantity, with or without glycerin, possesses these miraculous properties. If by "microbian element" is meant microbic organisms, the statement is without foundation. There is nothing in this product which possesses these bactericidal powers.

The circular which accompanied a trade package envelops the preparation in an air of mystery. Derivation from, or close relation to, ozone and hydrogen peroxid is vaguely hinted at, without definite assertion. Thus, the chief therapeutic properties of glycozone and hydrozone are compared as follows:

"Hydrozone instantly destroys the microbian element, leaving the tissues beneath in a healthy condition."

"Glycozone acts more slowly, but not less certain as a stimulant to healthy granulations."



HYDROZONE

(30 volumes preserved aqueous solution of H_2O_2)

IS THE MOST POWERFUL ANTISEPTIC AND PUS DESTROYER.
HARMLESS STIMULANT TO HEALTHY GRANULATIONS.

GLYCOZONE

(C. P. Glycerine combined with Ozone)

THE MOST POWERFUL HEALING AGENT KNOWN.

These remedies cure all diseases caused by Germs.

Successfully used in the treatment of diseases of the Genito-Urinary Organs (Acute or Chronic):
**Whites, Leucorrhœa, Vaginitis, Metritis, Endometritis, Ulceration of the Uterus,
 — Urethritis, Gonorrhœa, — Cystitis, Ulcer of the Bladder, Etc.**

Injections of **Hydrozone** diluted with water, (according to the degree of sensitiveness of the patient) will cure the most obstinate cases.

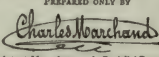
Send for free 240-page book "Treatment of Diseases caused by Germs" containing reprints of 120 scientific articles by leading contributors to medical literature.

Physicians remitting 50 cents will receive one complimentary sample of each, "Hydrozone" and "Glycozone" by express, charges prepaid.

Hydrozone is put up only in extra small, small, medium, and large size bottles, bearing a red label, white letters, gold and blue border with my signature.

Glycozone is put up only in 4-oz., 8-oz., and 16-oz. bottles, bearing a yellow label, white and black letters, red and blue border with my signature.

Marchand's Eyo Balsam cures all inflammatory and contagious diseases of the eyes.

PREPARED ONLY BY


Chemist and Graduate of the "Ecole Centrale des Arts et Manufactures de Paris" (France).

Charles Marchand, 28 Prince Street, New York.
 Sold by leading Druggists. Avoid Imitations. Mention this Publication

Much-reduced photographic reproduction of one of the older Glycozone advertisements. Attention is directed to the false claim that this nostrum is "glycerin combined with ozone."

There is no similarity between the action of hydrozone, which is a hydrogen peroxid preparation, and glycozone, which consists of a mixture of glycerin and glyceric acid. The representation is false and misleading. The following statement, also, is an unwarranted exaggeration of the facts:

"As an internal medication in fermentation of food, catarrhal and inflammatory conditions of the stomach, and intestinal disorders, its action is prompt and effective, giving immediate relief to the patient."

The following is another illustration of the vague statements made: After asserting that Glycozone is hygroscopic and that it will deteriorate by absorption of water unless securely corked, it is stated that "Its healing properties increase with age." Whatever mysterious ingredient there may be present in this mixture to justify the statement that

the healing properties increase with age can only be conjectured. To humbug the patient further, the circular advises him to use only a "silver, glass or hard rubber spoon."—*(From the Journal A. M. A., June 5, 1909.)*

GARDNER'S SYRUP OF HYDRIODIC ACID

Report to the Council on Pharmacy and Chemistry

The following report on Gardner's Syrup of Hydriodic Acid was submitted to the Council by a subcommittee:

This product was first taken under consideration in February, 1906. Reference to several committees was necessary, on account of the peculiar claims for the pharmaceutical, and especially the therapeutic, superiority of this preparation. At this time, as the Council did not have the necessary facilities for investigating therapeutic claims, the product was approved by the Council.

Since this time, however, the manufacturers have laid especial stress in their advertisements on some highly improbable claims, stating, for instance, that this Syrup of Hydriodic Acid possesses "all the advantages, with none of the objectionable symptoms caused by potassium iodid, or other forms of iodine medication." To one with even an elementary knowledge of chemistry, the absurdity of this statement should be evident. The alkaline reaction of the tissues makes it impossible that hydriodic acid should persist as such in the body. In fact, the iodine must circulate in precisely the same form, whether administered originally as potassium iodid or as hydrogen iodid. The qualitative identity of the therapeutic actions is further proof of this fact, were such needed.

Since the most important objectionable symptoms of iodine medication arise after the absorption of the drugs, and since hydrogen iodid is conceded to be readily absorbed, it is evident that these symptoms must be equally liable to occur with hydrogen iodid as with potassium iodid, provided that equivalent doses of iodine are administered. An apparent difference in clinical results would arise if one drug were habitually given in smaller doses than the other. Since, however, the iodine is present in the body in precisely the same form, whether it is administered as a hydrogen iodid or potassium iodid, it is evident that a given degree of therapeutic effect would correspond to an identical tendency to iodism, whichever drug was used. If, as appears to be the case, the use of hydriodic acid is commonly restricted to those cases in which only minimal doses of iodine are required, the relative infrequency, or even absence of symptoms with such doses would not prove that the drug itself is less apt to cause them than is the potassium salt.

These facts are in reality self-evident; but since the Council now has proper facilities for obtaining the views and experiences of clinicians, it voted to submit the statement in question to its staff of clinical consultants, and to be guided by their advice.

OPINIONS OF THE CLINICAL STAFF

The following is an epitome of the replies of the eleven members of this staff who had used the article or who expressed an opinion to the questions sent out by the Council:

1. QUERY: "Do you think it possible that such a preparation could be devoid of the usual effects of iodine preparations?"

Eight reply that they consider this, *a priori*, impossible; three stamp the statement as highly improbable, but do not care to say that it would be impossible. One of the correspondents remarks: "While distinctly taking the position that under many conditions we must accept clinical results which we find not explainable by our theoretical knowledge, where the conditions are so simple as in this case and where we know that the iodine, whether administered as hydrogen iodide or potassium iodide, must behave in the same way, after absorption, I believe that no properly educated and correct thinking physician can or will, after due consideration, fail to reject the claims of superiority made by the proprietors of this preparation."

2. QUERY: "Would you consider it necessary to make clinical experiments to settle this question?"

Seven of the correspondents consider this superfluous; four of these have had some experience with the article. Four, who have not used this product, consider a clinical test advisable. Under Query 3 we discuss the results of such tests.

3. QUERY: "When using Gardner's Syrup of Hydriodic Acid, have you ever noticed from it any of the objectionable effects of iodine preparations?"

Six of the correspondents have not used it, or are uncertain whether or not they used the product made by Gardner. One correspondent remarks: "Never used it. Repelled by claims of superiority which exaggerate disadvantages of potassium iodide and overlook the small amount of iodine used in the preparation advertised." The five clinicians who have prescribed the preparation report as follows: 1. Objectionable iodine effects in two cases, both patients being intolerant of all iodine preparations. 2. Has only prescribed it once or twice, but thinks he has seen iodism in one case, some years ago; does not recall clearly. 3. No; but has used this make very little, and then always in very small but continued doses. 4. No, always used it in small doses. 5. Yes, several cases in children; typical coryza, etc., with doses of three drams three times a day.

CONCLUSIONS: It appears that typical iodism occurred in several cases, after doses corresponding to 10 grains or less of potassium iodide per day, and this is a rather limited clinical material. Objectionable iodine effects are, therefore, not uncommon. Several correspondents remark that the relative infrequency of iodism is easily explainable by the fact that syrup is rarely employed in conditions which demand an active iodine medication and that it is, therefore,

always taken in small doses. In fact, the main if not the only point of superiority of the syrup appears to be in its flavor.

These clinical opinions and experiences, therefore, are in complete agreement with the judgment of the committee, namely, that the therapeutic claims made by the manufacturers for this article are exaggerated and misleading.

OTHER MISSTATEMENTS

The above is by no means the only misstatement in the printed matter issued by this manufacturer. In the publication, "The Applications of Iodin," issued in 1907, there occur the following misleading statements which, since they refer to plainly chemical facts, did not require submission to the clinical staff:

That the administration of potassium iodid after meals greatly impairs its physiologic action "by its chemical union with the various food products" (page 19). So far as the committee knows, potassium iodid does not combine with the food products in the stomach.

"Iodid of potassium, having an alkaline reaction, neutralizes the hydrochloric acid in the gastric secretions, causing indigestion, loss of appetite and depression" (page 19). The United States Pharmacopeia states, under Potassii Iodidum: "Its aqueous solution is neutral or has a slightly alkaline reaction on litmus paper." The slight occasional alkalinity would be physiologically insignificant, and it is absurd to claim that this alkalinity causes "indigestion, loss of appetite and depression."

"The dose of iodid of iron is so small that the amount of iodine contained therein is of little advantage" (page 19). As a matter of fact, the pharmacopeial average dose (1 c.c.) of the Syrup of Iodid of Iron contains as much iodine (0.85 grains) as a teaspoonful of Gardner's Syrup of Hydriodic Acid (0.83 grains).

"In hydriodic Acid the iodine is in combination with hydrogen, one of the elements of the natural secretions of the body, and is, therefore, in physiologic harmony" (page 21). No comment is needed.

It is implied elsewhere (page 29) that potassium iodid decomposes more readily, with the liberation of iodine, than does hydrogen iodid. This is contrary to the prevailing opinion, and would require definite evidence before it could be accepted. It is also stated the large doses of potassium iodid in syphilis are necessary, because the gastric decomposition prevents complete absorption. This is certainly untrue, for potassium iodid is absorbed almost quantitatively.

These, and numerous other misstatements, constitute violations of Rule 6; and it is, therefore, recommended that Gardner's Syrup of Hydriodic Acid be removed from the list of remedies approved by the Council; it is further recommended that this report be published.

The Council postponed final action on the report pending its submission to R. W. Gardner. This having been done, and the reply of Mr. Gardner submitted to the Council, the above report was adopted and ordered published.

W. A. PUCKNER, Secretary.

(From The Journal A. M. A., Nov. 14, 1908.)

HYPEROL

Report of the Council on Pharmacy and Chemistry

The Purdue Frederick Company, exploiters of Gray's Glycerine Tonic, have recently been advertising to the medical profession a nostrum called Hyperol. The following report to the Council, by the referee, was adopted and its publication authorized. W. A. PUCKNER, Secretary.

According to the label, Hyperol is "A Utero-Ovarian Corrective and Tonic." The circular accompanying the trade package states that it is:

"Indicated in all functional diseases of women such as: Amenorrhea, Dysmenorrhea, Menorrhagia, Metrorrhagia, Subinvolution, and in all conditions requiring a utero-ovarian corrective and tonic."

From another circular we learn that:

"Hyperol is a combination of Hydrastine, Aloin, Iron, Apiole and Ergotin. Its components to a certain extent will indicate its action, but the therapeutic effects of each ingredient seem to be augmented to an unusual degree by use in this particular combination. The proportions of each have been determined by extensive clinical experimentation, and the formula seems to be exactly balanced to produce the best therapeutic effects in all derangements of the utero-ovarian functions."

This "formula" is not very enlightening and a physician who wrote for further details was told that Hyperol contained:

Hydrastine	1/40 gr.
Aloin	1/12 gr.
Iron salts	3 gr.
Apiole (Special)	3 m.
Ergotin	1 gr.
And excipients.	

If this is correct, then, so far as its active ingredients are concerned, Hyperol is but a mixture of well-known drugs, having contradictory properties. According to the claims in the circular quoted above, it is useful both in amenorrhea and in menorrhagia. The mixture is as unscientific as it is unnecessary. It cannot be adapted to any individual case; when ergot is indicated, apiole would naturally be contra-indicated; if aloes is appropriate, hydrastine may defeat the object sought. It is unnecessary because no intelligent physician would prescribe such a combination of drugs in any given case. The claims are exaggerated, improbable and foolish. Hyperol conflicts with the following rules of the Council:

Rule 4, in that statements on the label and in the circular enclosed with the trade package advertise it to the public in the treatment of diseases.

Rule 6, in that exaggerated and unwarranted claims are made for its therapeutic qualities.

Rule 8, in that the name of this pharmaceutical mixture fails to disclose the potent constituents.

Rule 10, in that it is unscientific.

It is recommended that publication of this report be authorized to call attention to the unscientific character of such complex mixtures.

[EDITOR'S NOTE: Hyperol is advertised in *American Medicine* and the *St. Paul Medical Journal*.]—From *The Journal A. M. A.*, April 18, 1914.)

INGLUVIN

Report of the Council on Pharmacy and Chemistry

A subcommittee of the Council reported that unwarranted claims and misrepresentation were made for Ingluvin by its manufacturers, William R. Warner & Co., recommended that the preparation be refused recognition and that the report be submitted to Warner & Co. for action.

The report was submitted to the firm, and after waiting one month and no acknowledgement or reply having been received, the Council directed its publication. It is as follows:

REPORT ON INGLUVIN

Ingluvin is manufactured by W. R. Warner & Co., chemists, Philadelphia, Pa. The printed matter contains numerous claims and representations of which the following are specimens:

"A positive specific for indigestion, dyspepsia and the most effective remedy in obstinate cases of vomiting of gestation. . . . A specific for vomiting in pregnancy in doses of from 10 to 20 grains, and a potent and reliable remedy for the cure of marasmus, cholera infantum, indigestion, dyspepsia, and sick stomach caused from debility of that organ. It is superior to the pepsin preparations since it acts with more certainty, and effects cures where they fail. . . . The natural glycocholic acid in Ingluvin is the active principle and the most efficient agent in the treatment of all stomachic and enteric disorders."

Two samples were purchased at different times in the open market and on examination found to consist essentially of powdered meat fiber mixed with what appeared to a membranous tissue resembling the lining of a gizzard. Both samples on being tested by the method prescribed by the U. S. Pharmacopeia for estimating the strength of pepsin were found to possess little, if any, proteolytic activity. In order to determine whether or not the lining of a fowl's gizzard possesses proteolytic action, a fresh gizzard was secured, the lining washed slightly with water, then removed and on using one-half of same in place of pepsin as prescribed by the Pharmacopeial method, it was found to digest 10 grams of albumin within the time limit. Pepsin,

when properly kept, does not lose its strength to any material extent.

A careful examination was made for the presence of glycocholic acid, claimed to be the active principle of Ingluvin, but its presence could not be established. Furthermore, the anatomic relations of the fowl are such as to preclude its presence.

The above shows that Ingluvin does not possess nearly as much proteolytic activity as ordinary saccharated pepsin recognized by the 1880 Pharmacopeia, which was prepared on the basis of digesting 300 times its weight of egg albumin. Inasmuch as no glycocholic acid is present in Ingluvin, it would seem that saccharated pepsin would be far more efficacious in treating the abnormal conditions for which Ingluvin is recommended in the advertising circulars. Furthermore, the claims made for the preparation are grossly extravagant.

A communication from Warner & Co. has been received since the above report was adopted, in which it is stated: "The reason that previous letter was not replied to was because we were desirous of securing all the information possible on the subject. Since that time we have made considerable research and also made laboratory investigation, and are enclosing the accumulated data with diagram of a part of the alimentary canal showing the esophagus, crop and gizzard."

Much of the other matter submitted is immaterial. The following, so far as it means anything, seems to confirm the correctness of the report of the Council's referee that Ingluvin is practically devoid of proteolytic activity: "... the therapeutic activity must be due to the bitter property, rather than any proteolytic activity, and it probably increases, thereby, the functional activity of the stomach, by which the normal digestive process is increased. Ingluvin in a 0.4 per cent. hydrochloric acid solution at 37 to 40 C. or if mixed with an aqueous solution of pepsin under the same conditions possesses an acrid, bitter taste and increases the secretion of the saliva and this is practically the same condition as when in the stomach, it no doubt stimulates the depressed mucosa peptic glands and increases gastric solution."

W. A. PUCKNER, Secretary.

COMMENTS

The fallacies attending the use of digestive ferments in most stomach diseases have been previously noted in *THE JOURNAL*.¹ In most digestive disorders a deficiency of the digestive ferment has not been proved. In cases in which pepsin is lacking, its administration is valueless unless it is combined with large doses of hydrochloric acid, and it

1. Feb. 2, 1907, p. 415, and Feb. 9, 1907, p. 521.

is doubtful whether this combination is either necessary or conspicuously useful. There is, however, something so alluring about medication by digestive ferments which are assumed to supply a physiologic need, that since their discovery they have formed a fertile field for the activity of the manufacturer of proprietaries. As by scientific laboratory tests, it is possible to determine whether a given preparation has digestive power, the manufacturers of Ingluvin avoid this point by claiming that the remedy acts, not on the food, but on the stomach itself. That remedies may exist which act as stimulants to the digestive secretions can not be denied, although at the present time this power has not been satisfactorily demonstrated. The proprietors of Ingluvin, finding that proteolytic activity is not to be attributed to this preparation of chickens' gizzards, announce a new therapeutic fact in the claim that "the natural glycocholic acid in Ingluvin is the active principle and the most efficient agent in the treatment of all stomachic and enteric disorders. According to the report made to the Council there is no glycocholic acid in this preparation, nor is it possible, from the anatomic arrangements of the fowl's digestive apparatus, for it to get there. By all the tests which can be applied to determine its value this preparation is of much less value in digestive disorders than saccharated pepsin, which was discontinued in the Pharmacopeia because of its inferiority to the other forms of the ferment.

The repudiation, by the manufacturers, of the more absurd claims made for Ingluvin, shows the need of maintaining an attitude of healthy skepticism toward the advertised therapeutic virtues of proprietary preparations. If a physician is disposed to use digestive ferments, he should give preference to the official preparations, and ferments from other sources should be required to stand the exact tests which demonstrate the worthlessness of so many preparations on the market.—(*From The Journal A. M. A., July 11, 1908.*)

INTESTINAL ANTISEPTIC W-A

Report of the Council on Pharmacy and Chemistry

The Council voted that Intestinal Antiseptic W-A be refused recognition, and that the publication of the following report be authorized.

W. A. PUCKNER, Secretary.

The Abbott Alkaloidal Company advertises "Intestinal Antiseptic W-A" as

"... A scientifically blended and physiologically adjusted mixture, of the pure sulphocarbolates of calcium, sodium and zinc, grs. 5, with bismuth subsalicylate, gr. 1.4 and aromatics."

This formula is in conflict with Rule 1 in that it does not state in what proportion the sulphocarbolates are present.

The name "Intestinal Antiseptic W-A" is in conflict with Rules 4 and 8, since it is therapeutically suggestive.

The preparation is in conflict with Rules 6 and 10, in that exaggerated claims are made for it, no evidence being submitted to prove the superior value of the mixture.

The most serious of these conflicts consists in the exaggerated and misleading therapeutic claims. The advertisements say:

"This combination has no equal as an antiseptic and inhibitive agent in typhoid fever, diarrhea, dysentery," etc.

"Numerous cleverly devised and scientifically constructed intestinal antiseptics have been introduced to the profession, but not one of them has ever rivaled for one moment these salts in popularity."

"... we are convinced that no small share of the credit for the reduction of the death rate in infantile diarrheas is due to the widespread application of this general method of treatment, associated of course with the calomel clean-out and the regulation of diet, now known to be essential."

"But the use of the sulphocarbolates is not restricted to diseases of the alimentary canal, although in the summer diarrheas, gastric fermentation, intestinal indigestion, typhoid fever, dysentery—indeed in all alimentary disturbances—it is the one essential remedy. It is also indicated in practically all infectious diseases."

"Typhoid Fever (in this disease the W-A Intestinal Antiseptic is of great value; used early, with the proper synergistic cleanout, it will often cut short the disease)."

These extreme claims exceed the limits of permissible optimism, unless they are supported by strong dependable evidence. They contrast sharply with the low esteem in which the phenolsulphonates (sulphocarbolates) are generally held. To accept these claims, and to justify encouraging physicians to rely on them, it would be necessary to establish:

First, that feasible concentrations have a distinct antiseptic action on cultures of intestinal bacteria. This experiment could be easily made, but the claims do not seem to be based on evidence of this kind.

Second, that the preparation actually checks putrefaction in the intestines. There are several methods by which this proof may be attempted; but the claims do not appear to be based on evidence of this kind.

Third, that the preparation actually has a favorable influence on the progress of diseases. This sort of evidence is exposed to so many fallacies that it would have to be gathered very carefully and critically, duly discounting the effect of other treatment; for instance, by comparison with similar cases which do not receive this preparation. This is especially important; and yet we find directions to use this preparation in conjunction with active cathartic treatment, which in itself has considerable influence on the conditions for which this preparation is recommended. No evidence of this kind is presented.

The testimonials contained in the advertisements cannot be considered as serious evidence. None present any indication

of accurate record or proper control of conditions, or of the performance of control observations. They are superficial impressions, to which little or no weight can be attached.

It is recommended that Intestinal Antiseptic W-A be considered ineligible for New and Nonofficial Remedies.—(*From The Journal A. M. A., Dec. 19, 1914.*)

BANNERMAN'S INTRAVENOUS SOLUTION

Report of the Council on Pharmacy and Chemistry

Bannerman's Intravenous Solution (Wm. Bannerman and Co., Chicago) was refused recognition because vague, indefinite and misleading statements were made regarding its composition, because it was recommended for anemia, tuberculosis and syphilis under grossly exaggerated and unwarranted claims and because the intravenous injection of complex and indefinite mixtures is unscientific and dangerous. Notice of the action of the Council having been sent to the Bannerman Company, the firm submitted a revised statement of composition and also a revised advertising circular.

The claim is made that Bannerman's Intravenous Solution "is a compound of only the purest and proven efficient U. S. P. drugs." According to the latest statement:

Each 10 c.c. of Bannerman's Solution contains:

Hydrargyri Albuminas				
Mercury Content	1	1-9 Gr.	or	0.075 Gm.
Ferri Albuminas				
Iron Content	4	1-4 Grs.	or	0.286 Gm.
Sodii Chloridum	6	1-5 Grs.	or	0.412 Gm.
Calcii Salicylicum	4	Grs.	or	0.26 Gm.
Guaiacol	4	Grs.	or	0.26 Gm.
Creosote (Beechwood)	5	Grs.	or	0.32 Gm.

The solvent is said to be distilled water.

The formula is unsatisfactory in several particulars. The stated amounts of some of the ingredients are in excess of their solubility in water; the nature and amount of albumin contained in the "Hydrargyri Albuminas" and "Ferri Albuminas" are not given; the claim that the solution contains only U. S. P. drugs is not true. But the main objection to the preparation is its unscientific character and the unwarranted therapeutic claims made for it.

Even though a patient had all three diseases, syphilis, tuberculosis and anemia, it would be most irrational to use a shotgun prescription, containing, in fixed unvarying proportions, mercury for the syphilis, iron for the anemia and germicides for the tuberculosis. In syphilis the mercury-content of Bannerman's Solution is inadequate; in anemia the intravenous administration of iron is unwarranted, and in tuberculosis there is no evidence that the injection of bactericides is efficient.

Exception must be taken, moreover, to the statement that "its use is absolutely safe." The danger of anaphylaxis from repeated injections of albuminates cannot be disregarded, and as J. F. Anderson, director of the Hygienic Laboratory, has pointed out¹ we know little of the secondary or remote effects of the intravenous injection of toxic substances; some of them probably do permanent harm.

Such claims as the following require no comment:

"It builds up and increases the hemoglobin in the blood.

"It increases the number of red blood corpuscles.

"It regulates the white cells.

"It stimulates cell growth; therefore, it is reconstructive.

"It is a powerful antiseptic.

"It is useful in any septic condition."

In view of the facts given, the Council again refused recognition to Bannerman's Intravenous Solution.—(*From The Journal A. M. A., Jan. 2, 1915.*)

IODALIA *

Abstract of Report of the Council on Pharmacy and Chemistry

Iodalia is sold by Geo. J. Wallau, Inc., with the claim that because of the peculiar combination in which it contains iodine it is a valuable and efficient substitute for iodids. The preparation was examined in the Chemical Laboratory of the American Medical Association, which reported to the Council that, contrary to claim, iodine in the form present in Iodalia would, when administered, act like an ordinary iodid. Further the proportion of iodine present was so small that to administer the equivalent of 20 grains of potassium iodid it would be necessary to give the contents of a one-dollar bottle of Iodalia. In view of this report it is evident that the claim that Iodalia is "always well tolerated" and that it cannot produce "symptoms of iodism" is true only because of the small percentage of iodine it contains. The claims made in the advertising matter, that Iodalia is an efficient iodine medication in the treatment of syphilis, that it is a suitable substitute for cod-liver oil and that it may be used in anemia, dysmenorrhea, dyspepsia, malaria and diseases of the heart, are entirely unwarranted.

Iodalia is exploited in a way to suggest its use to the public for a host of diseases. Particularly reprehensible are the recommendations contained in a circular which accompanies the trade package that Iodalia:

1. THE JOURNAL A. M. A., July 4, 1914, p. 1.

* For the unabridged report of the Council's action on Iodalia, see Reports Council Pharm. and Chem., 1914, p. 69.

" . . . offers the same protection against grippe, bronchitis, pneumonia, tuberculosis, pleurisy and other infectious diseases that vaccine does against small pox . . . "

"It is also the best preventive against the slight infections and ailments to which debilitated and delicate children are subject."

The Council voted that Iodalia be refused recognition.—
(*From The Journal A. M. A., Dec. 12, 1914.*)

IODEX

Report of the Council on Pharmacy and Chemistry

Iodex is manufactured by Menley and James, Ltd., New York. It is advertised as

" . . . an embodiment of vaporized iodine in an organic base, reduced and standardized at 5 per cent. by incorporation with a refined petroleum product."

The advertising conveys the impression that the effects of free iodine are to be obtained from the preparation; it is said to contain "5 per cent. Therapeutically Free Iodine," and to do

" . . . everything the doctor expects of FREE iodine employed by inunction, without one physical or therapeutic drawback."

The statements are also made that the preparation "neither stains, irritates, blisters or cracks the skin," and that "thirty minutes after inunction iodine can be found in the urine."

The following report of an examination made by the Chemical Laboratory of the American Medical Association has been submitted to the Council:

"Iodex is dark green, practically black. The green color is apparent when the ointment is rubbed on the skin, but disappears on continued rubbing. This nonstaining property is explained by the results of a test for free iodine, made on five specimens, four of which yielded only minute traces of free iodine, while the fifth yielded none. Of course, the statements that Iodex is an 'Effective Free Iodine Application Without Drawbacks' and also a means of 'Really Efficient External Iodine Therapy Without Stain or Irritation' contradict each other. Free iodine cannot be present in a sufficient quantity to be therapeutically efficient in any application which does not stain or irritate the skin.

"The total iodine content of the five specimens was found to be 2.63 per cent.—a little over one-half of the content claimed.

"Absorption and excretion experiments were performed to test the claim that 'thirty minutes after inunction iodine can be found in the urine.' In several subjects, from 1 to 2 gm. of Iodex was rubbed on the skin of the forearms, and the urine, for periods varying from seven to seventy-two hours, was collected and tested for iodine. In all of the tests the results were negative."

Iodex is advertised as beneficial in muscular soreness, sprains, sciatica, neuritis, chronic rheumatism, enlarged glands, orchitis, epididymitis, gout, burns and dermatomycoses.

It is also said to be "Indicated in Glandular Enlargements, Inflammatory Conditions, Various Joint Diseases, Rheumatism, Skin Diseases, Chilblains, etc., etc."

To sum up:

1. As shown in the foregoing laboratory report, the composition is incorrectly stated, for the actual iodine content is only about half of that claimed.

2. It is not true that the action of Iodex is essentially that of free iodine, which is the impression conveyed by the advertising.

3. The assertion made in the advertising, that iodine may be found in the urine shortly after Iodex has been rubbed on the skin, has been experimentally disproved.

In view of these findings, the Council voted that Iodex be refused recognition for conflict with Rules 1, 4 and 6.—(*From The Journal A. M. A., June 19, 1915.*)

IODIA

Report of the Council on Pharmacy and Chemistry

The following report on Iodia was adopted by the Council and its publication authorized.

W. A. PUCKNER, Secretary.

Iodia is put on the market by Battle and Company, under the claim that it contains potassium iodide in combination with iron phosphate and vegetable "principles." It is extravagantly recommended for use in many and varied conditions. For instance, it is "an unexcelled altero-reconstructive," "almost a specific" in eczema and rheumatism and "a highly efficient form of iodine," which will not produce iodism!

The therapeutic effects of iodides result from a chemical transformation by which molecular iodine is set free in the tissues, thus producing a mild degree of iodism. It follows, then, that a preparation which cannot give rise to the symptoms of iodism cannot be expected to produce the therapeutic effects of the iodides. The claim that Iodia is therapeutically efficient without producing iodism therefore justifies suspicion, to put it mildly.

In view of the exaggerated tone of the advertising, together with the fact that a report from the Chemical Laboratory of the American Medical Association showed marked discrepancies between the formula and the composition of Iodia, it seemed desirable to investigate this product. The report of the laboratory, which is given below, shows conflict with Rule 1 (secrecy of composition) and with Rule 2 (false claims of standardization). A discussion of the claims made for Iodia follows the report.

LABORATORY REPORT

The composition of Iodia is given thus:

"Formula.—Iodia is a combination of active principles obtained from the green roots of *Stillingia*, *Helonias*, *Saxifraga*, *Menispermum* and aromatics. Each fluid drachm also contains two and one-half grains Iod.-Potas. and one and one-half grains Phos.-Iron."

We are told that:

"Its several ingredients are selected with scrupulous care, and the most exacting methods are constantly employed to insure absolute uniformity and maximum therapeutic potency."

This "formula" is an absurdity: First, the amounts of the "active principles" of the plants named are not given; second, these "principles," with the possible exception of *menispermum* alkaloids, have not been isolated; and, third, ferric phosphate and potassium iodid are incompatible! Incidentally, there are no methods whereby it is possible to secure "absolute uniformity" of a mixture such as Iodia is claimed to be.

Qualitative tests demonstrated the absence of iron and the absence of all but traces of phosphorus compounds (0.015 gm. phosphorus per 100 c.c.). Minute traces of alkaloids, possibly from *menispermum*, were found (that amount being about 0.004 gm. per hundred c.c. of the preparation). Therapeutically this quantity is entirely negligible. Determinations of iodid demonstrated the presence of only about 60 per cent. of the amount of potassium iodid claimed. The "formula" for Iodia is false and misleading.¹

DANGEROUS RECOMMENDATIONS

One of the Iodia labels reads:

"INDICATIONS. — Syphilitic, scrofulous and cutaneous diseases, dysmenorrhea, menorrhagia, leucorrhea, amenorrhea, impaired vitality, habitual abortion and general uterine debility."

Such recommendations are likely to lead to self-drugging in conditions that are not only dangerous to the individual but also a menace to the community. The preparation thus conflicts with Rule 4 of the Council. After admitting the need of efficient iodid medication in certain stages of syphilis and after exaggerating the frequency and severity of symptoms of iodism, an advertising circular entitled "Practical Therapeutics" asserts:

"Iodia then is the preparation of iodid of potassium to be preferred whenever it requires to be administered in large doses or for prolonged periods of time . . .

"Not only does the association of the iodid of potassium with the vegetable alteratives offer a measure of protection against iodism but the latter exert depurative effects on their own account . . ."

It is generally accepted that in certain stages of syphilis the only hope of success lies in efficient iodine medication.

1. It should be noted that the discrepancies here reported between the actual and the claimed composition of Iodia were pointed out more than thirty years ago by A. B. Lyons (*Detroit Lancet*, October, 1882, vi, 157-8), who found that Iodia was deficient in iodine content and practically free from iron.

The exploiters of Iodia state that a dose of the nostrum contains $2\frac{1}{2}$ grains of potassium iodid; actually it contains only $1\frac{1}{2}$ grains. To urge physicians and the public to depend on this product for efficient iodid medication constitutes an unwarranted therapeutic exaggeration (Rule 6) which approaches criminality. The reason Iodia does not produce iodism is that, in the doses recommended, the iodine action is extremely feeble.

Likening the human body to a factory and discussing the "break downs" which are likely to occur, a circular entitled "Always Trustworthy" says:

"When administered in proper dosage, Iodia stimulates organic functions, promotes the elimination of waste products, and re-establishes metabolic activity. It increases the solvent properties of the blood, and arrests abnormal tissue metamorphosis. In other words, it lends material assistance to weakened cells and curbs those unduly active. Iodia, obviously, has a wide range of indications. It has been most generally and successfully employed, however, in Syphilitic, Scrofulous and Cutaneous Diseases, Rheumatic and Gouty Ailments, Dysmenorrhea, Menorrhagia, Leucorrhoea, Amenorrhoea, Impaired Vitality, Habitual Abortion and General Uterine Debility, and wherever a reliable altero-reconstructive is required."

These recommendations show that in addition to the objections already given, this nostrum is an unscientific shotgun mixture. This brings it in conflict with Rule 10 (unscientific articles inimical to the medical profession and the public).

It is recommended that Iodia be refused recognition.—
(*From The Journal A. M. A., Nov. 21, 1914.*)

BURNHAM'S SOLUBLE IODINE *

Report of the Council on Pharmacy and Chemistry

The Council has authorized publication of the following report on Burnham's Soluble Iodine.

W. A. PUCKNER, Secretary.

Burnham's Soluble Iodine is offered to the medical profession by the Burnham Soluble Iodine Company, Auburndale, Mass., under the claim that by

"... a new process hitherto unknown to chemistry, ... Iodine is converted into a soluble article—soluble in water and soluble in gastric secretions and in the tissues."

Beyond this no statement as to the qualitative or quantitative chemical identity of Burnham's Soluble Iodine is furnished; this secrecy, of course, has given the preparation a certain mysterious prestige among unthinking physicians.

Burnham's Soluble Iodine was examined in the Chemical Laboratory of the American Medical Association some six

* See also Burnham's Soluble Iodine, p. 233.

years ago and was found to be an alcoholic solution of free iodine (approximately 3 gm. per hundred c.c.) and combined iodine in the form of iodide (equivalent to about 2 gm. of potassium iodide per hundred c.c.). Thus the total iodine content was somewhat less than half of that of the official Tincture of Iodine (Tr. Iodi), which contains 7 gm. of free iodine and 5 gm. of potassium iodide to each 100 c.c. The official tincture, diluted one-half, therefore, would be essentially equivalent to the Burnham preparation, both being miscible with water. The Burnham Soluble Iodine Company objected to the conclusions drawn from this analysis, but admitted the correctness of the analysis itself.

Any one who gathered his first knowledge of the subject from the Burnham advertising might readily infer that no soluble iodine had been known prior to Burnham's Soluble Iodine. This, of course, is not the case; the method of producing a solution of iodine by the use of an iodide has long been known.

The following statement is not only obviously untrue but also nonsensical:

"In all the history of iodine medication, covering a period of laboratory research of many years duration, every effort to produce a free iodine, prior to the evolution of Burnham's Soluble Iodine, was attended by failure."

The company lays stress on the assumed superiority over the iodides of a preparation containing free iodine. This assumption is based on a fallacy. Those who regard free iodine as superior to combined iodine forget that free iodine taken by the mouth is converted in the intestines, by the action of the alkaline intestinal secretions, into an iodide with a small amount of iodate, while administered intravenously (a procedure that, while advocated by the Burnham concern, is therapeutically indefensible) it enters into combination with the alkaline salts and proteins of the blood. The free iodine in Burnham's Soluble Iodine must act in the system as an iodide, and the whole iodine content, to furnish a correct estimate of the value of the preparation, should be reckoned as an iodide.

Bearing this in mind, then, it is evident that the doses of Burnham's Soluble Iodine recommended by the manufacturers are extremely small. They range from 20 minims (equivalent to 1 grain of potassium iodide) to $\frac{1}{2}$ minim (equivalent to $\frac{1}{40}$ grain of potassium iodide). From 5 to 20 minims (equivalent to about $\frac{1}{4}$ to 1 grain of potassium iodide) is the dosage recommended for syphilis; from "1 to 3 minims [equivalent to from $\frac{1}{20}$ to $\frac{3}{20}$ grain of potassium iodide] three to six times daily" for typhoid and other intestinal diseases. No wonder the exploiters can say that this nostrum does not irritate the intestines, that it is "non-irritating to the weakest stomach" and that there is an "entire absence of toxic action

from maximum doses"! Its alleged freedom from the irritating and untoward effects of ordinary iodids is due, not to any inherent superiority of the preparation, but to the insignificant amount of iodid present.

The preparation is advertised for use in an extremely wide range of diseases, in some of which iodid therapy is recognized as of value, while in others it is generally regarded as either worthless or harmful. Given orally or intravenously (the recklessness of the latter method should again be emphasized) Burnham's Soluble Iodine is claimed to be of:

" . . . great utility as an internal antiseptic in tubercular affections . . ."

Since, as previously explained, free iodine, when introduced into the body, enters into chemical combination before it has a chance to permeate the tissues, and since the alkali iodids possess very slight (in fact, for this purpose, negligible) antiseptic powers, it is evident that this claim is unfounded. So, for the same reason, is the claim that "as an intestinal antiseptic," Burnham's Soluble Iodine is:

" . . . efficient in Typhoid Fever, Enteritis and other intestinal diseases."

It is recommended in exophthalmic goiter, notwithstanding that this condition is generally recognized as contraindicating the administration of iodids, which excite the action of the thyroid gland, and which therefore must be used with great circumspection. An especially indefensible recommendation is that $\frac{1}{2}$ minim of Burnham's Soluble Iodine (equivalent to $\frac{1}{40}$ grain of potassium iodid) be administered every five minutes in "membranous croup"—diphtheria—until relief from dyspnea is obtained. But, of all the extravagant claims made for this preparation, perhaps the following is the most reprehensible:

"In the treatment of Phthisis, in its various forms, clinical evidence clearly indicates that the use of SOLUBLE IODINE affords the most potent method of treatment available. Dose—2 minims, increasing to 5 minims in four ounces water before meals."

Remove the mystery and tell physicians that a dose of $\frac{1}{10}$ or $\frac{1}{4}$ of a grain of potassium iodid is "the most potent method of treatment available" in tuberculosis and the absurdity becomes self-evident. Nor is this the worst feature of the advice here offered. Iodine, by combining with the fatty acids of tuberculous tissues, promotes their autolysis and consequently their softening and breaking down. The products of this autolysis are carried by the lymphatics to healthy tissues and thus may spread the infection. Therefore the use of iodids in tuberculosis, even in small dosage, should not be undertaken lightly.

It is recommended that Burnham's Soluble Iodine, a semi-secret preparation, exploited by means of extravagant and dangerous therapeutic claims, be held ineligible for admission to New and Nonofficial Remedies, and that this report be published.—(*From The Journal A. M. A., May 15, 1915.*)

IODOTONE *

Abstract of Report of the Council on Pharmacy and Chemistry

Eimer and Amend, New York, who market Iodotone, state that it is a solution of hydrogen iodid (hydriodic acid) in glycerin, containing 1 grain of iodine to each fluid dram. The unwarranted assertion is made that Iodotone

" . . . will produce the constitutional effect of iodine in a shorter time than other preparations"

This cannot be true, for it is certain that, because of the alkaline reactions of the tissues, iodids, whether administered as hydrogen iodid or as alkali iodids, must circulate in precisely the same form and therefore exert the same therapeutic effects in precisely the same way.

Eimer and Amend further assert that the ordinary iodids may to advantage be replaced by Iodotone. The absurdity of this claim is apparent when it is considered that it will be necessary to administer nearly one fluidounce of glycerin to obtain an amount of Iodotone equivalent to a 10-grain dose of potassium iodid. The additional claim that Iodotone will not disturb the stomach or produce the usual disagreeable symptoms of iodism is evidently unwarranted, for it is generally conceded that symptoms of iodism can be avoided only at the risk of insufficient iodine medication. Because of these unwarranted and misleading claims and because the name Iodotone would tend toward the uncritical use of the preparation as a general tonic, the Council voted that Iodotone be refused recognition.—(*From The Journal A. M. A., Dec. 12, 1914.*)

IOSALINE

Report of the Council on Pharmacy and Chemistry

Iosaline is a rheumatism remedy for external application. In view of the misleading and unwarranted claims which are made for it, the Council voted that Iosaline be refused recognition and recommended publication of the Committee's report which appears below.

W. A. PUCKNER, Secretary.

* For the unabridged report of the Council's action on Iodotone, see Reports Council Pharm. and Chem., 1914, p. 72.

COMMITTEE'S REPORT

The following sweeping but rather indefinite claims are made for Iosaline.

"Iosaline is a penetrator and overcomes the objectionable escharotic properties of Iodine; it is readily absorbed and may be used without discomfort or discoloration."

"The strong analgesic properties of Iosaline make it especially useful in controlling pain in cases of Neuralgia, Rheumatism, Gout, and Arthritis Deformans."

As there are few, if any, known iodine compounds which are "readily absorbed" through the skin and which will not at the same time produce discoloration or discomfort, it was thought worth while to take up the examination of Iosaline. The results of this examination are reported by the Chemical Laboratory of the Association as follows:

Laboratory Report:—Iosaline is advertised by the Iosaline Company of New York, as a remedy for the treatment by external application, of rheumatism, gout, neuralgia, pneumonia and numerous other diseases. Concerning its composition the following statements are made:

"A transparent, non-staining gelatinoid of combined iodine with menthol and methyl salicylate.

"Alcohol 070. per cent.

"Chemical tests demonstrate the preparation to contain 5 per cent. of iodine."

The placing of a cipher before the percentage figure for alcohol, though perhaps accidental and not meant to mislead, might cause a hasty or careless reader to understand 7 per cent. or .07 per cent., instead of 70 per cent., as the proportion of alcohol present.

The preparation examined was a very pale yellowish, translucent solid having a strong odor of methyl salicylate and a fainter odor of menthol. A package sold for 2 ounces contained 51.7 gm. Qualitative tests indicated the presence of alcohol, an iodid, methol, methyl salicylate, potassium, sodium, combined fatty acids and a trace of glycerin. Thyroid extract was not found. Quantitative examination indicated the following approximate composition for Iosaline:

Alcohol (by weight).....	48.05 per cent.
Menthol	2.07 per cent.
Methyl salicylate	10.25 per cent.
Potassium iodid (4.25 per cent. iodine) ..	5.55 per cent.
Soap	12.68 per cent.
Glycerin	a trace
Water and undetermined matter to make 100 per cent.	

Iosaline, therefore, appears to be a solidified, watery-alcoholic solution of soap containing potassium iodid, menthol and methyl salicylate. Physiologic tests carried out by rubbing the preparation on the skin and afterward testing the saliva and the urine for an iodid indicated that none of the potassium iodid is absorbed. Since Iosaline is claimed to contain 70 per cent. of alcohol and 5 per cent. of iodine, the alcohol content is but 68.7 per cent. and the iodine con-

tent but 85 per cent. of the amounts claimed. The phrase "combined iodine" is evidently meant to mislead, and adds the element of mystery on which preparations of this class rely so largely. —(*From The Journal A. M. A., March 15, 1913.*)

NOURRY WINE*

Abstract of Report of the Council on Pharmacy and Chemistry

Nourry Wine (E. Fougere and Co., New York) is a proprietary iodine preparation said to contain 12 per cent. of alcohol and $1\frac{1}{2}$ grains of iodine in combination with tannin to the fluidounce. Experiments made in the A. M. A. Chemical Laboratory demonstrate that the iodine contained in Nourry Wine is present either in the form of iodide ions or in a form very readily yielding iodide ions and that therefore its action will be that of ordinary iodide. Yet a circular asserts:

"The Nourry Wine is the one preparation . . . able to introduce into the organism the active metalloids liberated little by little from the organic combination . . ."

While Nourry Wine contains but an insignificant proportion of iodine, the circular claims that "Nourry Wine presents a high dose of iodine." Further, the label on Nourry Wine and the circular which is wrapped with it suggests its use in a number of diseases in which iodine medication is considered of minor importance. These recommendations, bolstered up by testimonials from twelve to twenty-five years old, are likely to lead the public if not the medical profession to use this weak iodide wine where efficient treatment is called for. The attempt is made to give a further false value to Nourry Wine in the minds of those who prize everything that is foreign by the suggestion that it comes from France when in reality it is made in New York. In conclusion the Council held that, though the alcohol of the wine is the most potent constituent, the constant use in the advertising matter of the term "Nourry Wine," unqualified by the adjective "Iodinated," was mischievous as likely to lead to the thoughtless use of the preparation in cases unsuitable for iodine medication. The Council refused recognition to Nourry Wine.—(*From The Journal A. M. A., Dec. 12, 1914.*)

LABORDINE

A Report by the Council and Some Pertinent Comments Added Thereto

The following report was submitted to the Council on Pharmacy and Chemistry by the subcommittee which examined Labordine:

* For the unabridged report of the Council's action on Nourry Wine, see Reports Council Pharm. and Chem., 1914, p. 74.

* For reports and articles on other acetanilid mixtures, see pp. 244, 268, 305.

To the Council on Pharmacy and Chemistry:—Your subcommittee presents the following report on Labordine, sold by the Labordine Pharmacal Co., St. Louis.

Labordine is advertised to physicians as having the following composition:

Apium Graveolens (true active principle) "Process-Laborde".....	35¾
Gaultheria Fragrantissima (true active principle) "Process-Laborde".....	25¾
Acete Amide-Phenyle	15¾
Quinina	1¾
Benzoyl-Sulphyonic-Imide	23¼

It is stated to be a "vegetable antipyretic"; that it reduces temperature without heart depression," and physicians are warned to "avoid acetanilid poisoning and danger from other coal-tar antipyretics."

While the "formula" and the statement just quoted are sufficient evidence of the fraudulent character of the product, yet an abstract of the reports of the chemists who analyzed it is given further to demonstrate its character.

Avoid Acetanilid Poisoning and Danger from Other Coal-Tar Antipyretics!

FORMULA.

Apium Graveolens (true active principle) "Process-Laborde".....	35¾
Gaultheria Fragrantissima (true active principle) "Process-Laborde".....	25¾
Acete Amide-Phenyle	15¾
Quinina	1¾
Benzoyl-Sulphyonic-Imide	23¼

LABORDINE

vegetable Antipyretic

Try Labordine in a critical case where other antipyretics have failed to give the desired results.

Dose, 5 to 10 Grains.

Prepared in Powder and 5 grain Tablets.

REDUCES TEMPERATURE WITHOUT HEART DEPRESSION.
RELIEVES PAIN WITHOUT BAD AFTER-EFFECTS.

Quantity sufficient for clinical test on request.

Labordine Pharmacal Co., St. Louis, U. S. A.

Taking the average of the reports of analyses, labordine contains:

Acetanilid	37.9
Free salicylic acid.....	6.9
Quinin	present
Corn starch	present
Milk sugar.....	34.7

This report of analysis only makes apparent that Labordine is not what it is claimed to be. While it is claimed to contain 23¼ per cent. saccharin, this substance was not present, or mere traces only. While, in a disguised way, it is stated to contain 15¾ per cent. acetanilid, it contained nearly 40 per cent.

It is recommended that Labordine be not approved and that this report be published.

The recommendation of the subcommittee was adopted by the Council, and in accordance therewith the above report is published.

W. A. PUCKNER, Secretary.

COMMENTS

A concrete illustration of some general principles previously laid down is furnished by a nostrum too unimportant to be of any value, save to "point a moral and adorn a tale."

About thirteen years ago Labordine was advertised under the name of Analgine-Labordine, "A purely vegetable product," "a combination of the active principles of *Camellia Thea*, *Apium Graveolens*, saccharin and carbohydrates," "Superior to Antipyrine, Phenacetine, Antifebrine, Acetanilid"—note the use of two names for the same thing—"or any of their imitations," and "unexcelled by any coal-tar product or their compounds." In 1894 the name was changed to Labordine, in order, as its owner stated, to prevent its being mistaken for a coal-tar product of similar name.

What its composition was at this time we do not know, since there is no guarantee of the permanence nor stability of nostrum formulas except "the honor and reputation of the manufacturers," which, as investigation has shown, is not always unimpeachable. There has been nothing to prevent alteration of the formula, if the proprietors desired, with every change in the moon. But the name and the general tone of the advertising has been the same. The claim of superiority over coal-tar products has been constantly made.

As to the present conditions, a circular enclosed with a sample of Labordine, recently sent from the St. Louis office, contains the formula given above in the report of the Council. In the same circular are also found these illuminating statements: "The medical profession has long appreciated the dangers involved in the administration of various mineral remedies now so commonly employed, and the value of a safe, effective and reliable vegetable antipyretic is universally recognized. Such a remedy is Labordine. It is purely vegetable in its composition and produces none of the evil after-effects of the coal-tar derivatives. . . . Labordine . . . is a purely vegetable cardiac stimulant. . . . There is nothing mysterious about Labordine or its constituents. . . . The 'Process-Laborde' gives the true active principles of the Celery and Indian Wintergreen, something heretofore difficult to obtain. To this is added the fact that absolutely chemically pure Acet-Amide-Phenyle is used. The latter is the most valuable and, in fact, the only vegetable antipyretic known."

The above report of the Council shows the following facts:

1. *Apium Graveolens* (true active principle), "Process-Laborde" is probably powdered celery seed. One chemist says: "The powder has the characteristic odor of celery, while a microscopic examination shows the presence of a substance having the characteristic structure of seeds in general." If celery seed has any "active principle" it has never been isolated. As to its therapeutic value, nothing whatever is known. It is, we understand, highly beneficial in the case of singing canaries, but authorities in scientific therapeutics have never discovered that it possessed any remarkable medicinal qualities.

2. *Gaultheria Fragrantissima* (true active principle), "Process-Laborde," is probably ordinary everyday salicylic acid. One analysis showed salicylic acid to be present to the amount of about 7 per cent. The question of whether or not salicylic acid could in any way be considered the "true active principle" of *Gaultheria Fragrantissima*, was submitted to Prof. John Uri Lloyd of Cincinnati, the eminent authority on the chemistry of the proximate principles of plants, who replies:

"The advertisement is evidently so worded that, although the name of the Indian plant *Gaultheria Fragrantissima* is employed, its true and active principle being wintergreen oil, the concoctor can mystify his patrons and at the same time use the well-known wintergreen oil, made in America, which in my opinion, so far as any chemical test might be concerned, could not be distinguished from the methyl salicylic acid (wintergreen oil) derived from the Indian plant. Concerning whether salicylic acid is a proximate constituent of *Gaultheria Fragrantissima*, in my opinion, it would be a misnomer to make such an announcement. Salicylic acid, per se, does not exist, in my opinion, in the plants mentioned, being made by chemistry."

3. The third and most important ingredient in this "purely vegetable antipyretic" is brazenly announced as "Acet-Amide-Phenyle," but it is only necessary to say that this imposing designation is an attempt to "Frenchify" a scientific name for acetanilid.

Analysis shows that this coal-tar product is present to the amount of 37.9 per cent., or 1.89 grains in a 5-grain tablet.¹ In other words, this imposing Labordine, made by a mysterious and elsewhere unheard of "Process-Laborde," is simply one more of the many acetanilid powders that have been foisted on our profession and that have filled our journals for years past. The only thing in it that is of practical therapeutic value is 2 grains of acetanilid to a 5-grain tablet. The statement that Labordine is a purely vegetable preparation is probably intended by the proprietors as a good joke on the medical profession. Acetanilid is not usually regarded as a vegetable product, at least it is not ordinarily found in market gardens. The only vegetable source from which acetanilid can be obtained is the beautiful flowering coal-tar bush, from which so many other nostrum vendors obtain their "perfectly harmless, purely vegetable antipyretics," all composed of acetanilid and something to hide it. If the statements made by one of the company's employees and quoted below are true, Labordine is not "manufactured and made chemically pure in the laboratories of the Labordine Pharmacal Company," for this com-

1. Since this article was prepared we find that the national Food and Drugs Act has forced the proprietors of Labordine to put on the label the amount of acetanilid it contains, viz., 40 per cent., or 2 grains in a 5 grain tablet.

pany has no laboratory, and its product is manufactured for it.

4. Our readers will be interested to know that the important ingredient entered under the imposing name of Benzoyl-Sulphyonic-Imide is simply a highly scientific name for saccharin. Even on this point, however, the formula is misleading, since it claims $23\frac{1}{4}$ per cent. of this substance, whereas the analysis shows that the presence of saccharin could not be proved. If it is present at all it is in quantities much less than stated, and so small as to be difficult of recognition. Instead it appears that the product contains common starch and about 35 per cent. of milk sugar.

THE COMPANY ITSELF

One of the humiliating phases of the proprietary medicine business is that, in many instances, these preparations are foisted on our profession by men who know nothing of medicine, pharmacy or chemistry, yet who not only presume to concoct our medicines for us, but also assume to instruct us how to use them.

Gould's Commercial Register for 1907 gives the officers of the Labordine Pharmacal Company as H. M. Coudrey, president; M. Crawley, vice-president, and D. E. Gamble, Jr., secretary and treasurer. The place of business is given as 420 Market street, St. Louis. We are informed that Harry M. Coudrey is an insurance agent and the present member of Congress from the Twelfth Missouri District; that Mark Crawley is a clerk in the insurance office of H. M. Coudrey; and that Mr. Gamble is cashier in the same office. A recent visit of a representative of THE JOURNAL to 420 Market street, St. Louis, showed that the office of the Labordine Pharmacal Company is in Room 12 on the third floor of an old dilapidated building. There was no sign on the door of the office, but on the wall next to an old elevator was a very small sign which read "Labordine Chemical Company, Room 12." The office at the time of the visit was apparently in charge of a young woman about 20 years old. Careful scrutiny of the furniture and fixtures showed that the room contained an old oak roll-top desk in one corner and a kitchen table, on which were piled about half a dozen packages of Labordine. The floor of the room was bare and very dirty. In an adjoining room, the door of which was open, was piled a lot of broken furniture. No laboratories nor chemical apparatus were visible. The young woman in charge stated that Labordine was made by the Mallinckrodt Chemical Works, at No. 3600 North Second Street, St. Louis.

This is a fair sample of nostrums and of the methods of exploiting them. The bitterly humiliating fact about the whole business is that a preparation, advertised under such palpably misleading claims, could actually be advertised in medical journals, even in journals of a supposedly high

scientific standard, and could be bought and prescribed for years by supposedly intelligent and conscientious physicians. It is not supposed that every physician should be enough of a chemist to detect the ridiculous discrepancies between the published formula and the therapeutic claims made for such a mixture. But that members of a supposedly learned profession should fail to have enough interest in the preparations they prescribe for their confiding patients to find out that acetanilid is being masked under an obsolete and little used name, that under an imposing polysyllabic designation is hidden saccharin, that the so-called "active principle Process-Laborde" (whatever that may be), is equivalent only to one-third grain of salicylic acid in a 5-grain tablet, and that the advertising matter sent out for years by this company contained absolute falsehoods regarding the composition and therapeutic benefits of its preparation, is certainly just cause for shame and humiliation. If a physician, knowing the composition of Labordine, wishes to prescribe it and prescribes it intelligently, he has a perfect right to do so. If he wishes his patient to have 2 grains of acetanilid, 1/20 of a grain of quinin, and 1/3 of a grain of salicylic acid, and considers a mixture of ground celery seed, starch and milk sugar as a proper vehicle for this medication, no one will question his right to administer it. No physician, however, has any right, either moral or professional, to prescribe a preparation, concerning the ingredients of which he knows absolutely nothing.

Is it possible that such carelessness may be one of the causes of waning public confidence in our profession? We leave it to our readers to determine whether such a moral can be drawn from this typical nostrum story.—(*From The Journal A. M. A., March 30, 1907.*)

LACTOBACILLINE OMITTED FROM N. N. R.

Report of the Council on Pharmacy and Chemistry

The Franco-American Ferment Company has advised the Council on Pharmacy and Chemistry that, in advertising its products, it will no longer conform to the rules of the Council. This is evident. The Franco-American Ferment Company has distributed circulars in which the public is informed that auto-intoxication is the cause of innumerable ills ranging all the way from arteriosclerosis, rheumatism and gout to chronic headache, odorous perspiration, nervous disorders and melancholia; that the Bulgarian bacillus "is a wonderful corrective or remedy" for all these conditions, and that the Lactobacilline products are the only preparations of Bulgarian bacillus "to be had in America which bear his [Professor Metchnikoff's] personal endorsement"—by inference, the only reliable products. In view of the

action of the Franco-American Ferment Company, and of the tendency of their advertising to cause the public to exaggerate slight ailments into alarming conditions, the Council has voted that the several Lactobacilline products of this concern be deleted from New and Nonofficial Remedies.—(*From The Journal A. M. A., April 17, 1915.*)

REEXAMINATION OF LACTOPEPTINE *

Report to the Council on Pharmacy and Chemistry

In 1907 the Council on Pharmacy and Chemistry published a report on Lactopeptine. At that time it was shown that Lactopeptine did not have the composition claimed for it. The same claims as to composition are still being made for the product. In view of this fact, a second examination of Lactopeptine has been made and the result reported to the committee on chemistry. The report confirms the Council's findings of six years ago. After adoption by the committee, it was adopted by the Council and its publication authorized.

W. A. PUCKNER, Secretary.

SECOND EXAMINATION OF LACTOPEPTINE

Two specimens of Lactopeptine in original unbroken packages were recently examined. One of these was an American preparation said to be produced by the New York Pharmaceutical Association at Yonkers and the other an English preparation from John Morgan Richards and Sons, London.

When Lactopeptine was first examined by the Council about six years ago, it was found to be little more than weak saccharated pepsin, and did not contain the other ferments which were claimed by the manufacturers to be present. A statement concerning this was published in the Council Reports for 1905-1908, p. 43. Because of claims recently made by the exploiters that this preparation contains not only pepsin but also pancreatin, diastase, lactic acid and hydrochloric acid, and that the failure to recognize these must be due to the lack of ability of the chemists making the examination, it seemed worth while to undertake a new series of tests on samples from two sources mentioned, the products on the British and American markets. The label on the British sample gives the following as the composition:

Sugar of Milk.....	40 ounces
Pepsin	8 ounces
Pancreatine	6 ounces
Ptyalin or Diastase.....	4 drachms
Lactic Acid	5 fl. drachms
Hydrochloric Acid	5 fl. drachms

The label on the American sample gives no quantities but states that it "represents a combination of the principal

* See also Liquid Combinations Containing Pepsin and Pancreatin, p. 157. A reprint of articles bearing on this subject, issued under the title Digestive Impossibilities, will be sent on receipt of a 2-cent stamp.

digestive and enzymogenic agents, Pepsin, Pancreatin, Diastase, Lactic and Hydrochloric Acids, in the proper proportion to insure best results."

We have examined both preparations for starch-digesting power according to the methods employed in our previous examinations of such ferments and already reported. Diastase and the amylopsin of pancreatin seem to be completely absent, or, if present at all, in such minute traces that digestion of starch is not shown after one hour when quantities running from 60 mg. up to 150 mg. were allowed to act on 500 mg. of starch made up into paste. These tests were repeated, always with the same results, and were controlled by digestions of the same starch with other diastase preparations of known value.

Tryptic activity appears likewise to be absent, as in weak alkaline solution after fifteen hours' digestion no effect on coagulated egg albumin or fibrin was observed when 100 mg. of each preparation was used with 1 gm. of the protein material.

As was found in the previous investigation the two products have some peptic activity, but this activity is comparatively weak, as about 200 mg. of each preparation are required to digest 10 gm. of coagulated egg albumin with 0.2 per cent. hydrochloric acid in three hours at 40 C. (104 F.), and 100 mg. portions were unable to completely digest 10 gm. portions of egg albumin with acid of the same strength in four hours at 50 C. (122 F.).

Hydrochloric acid is absent, as might be expected from the character of the preparation, and the amount of combined chlorid is small; but qualitative tests were obtained for organic acid resembling in behavior lactic acid, which is probably present in combined form.

It must be reaffirmed then that in digestive activity both the Lactopeptine purchased in the United States and that bought in England are essentially weak saccharated pepsins.

[EDITORIAL NOTE.—The report of 1907 demonstrated that Lactopeptine was at that time a weak saccharated pepsin. The present report shows that Lactopeptine, as it is sold both in the United States and Great Britain, is still the same weak pepsin preparation. By the false statements which appear on the Lactopeptine labels the exploiters lay themselves liable to prosecution under the Food and Drugs Act—just as they have laid themselves liable for the past six years. The continued exploitation of this preparation warrants a restatement of facts that have been given many times before:

1. A preparation having the composition claimed for Lactopeptine—a powder containing pepsin, pancreatin, diastase, lactic acid and hydrochloric acid—cannot be produced commercially.

2. Even if such a combination were available, the acidity of the mixture itself and of the gastric juice would in all probability destroy the pancreatin before it could reach the intestinal tract.

3. Even if every constituent could exert its proper function at the right time, the administration of such a shotgun mixture would be unscientific and uncalled for.]—(*From The Journal A. M. A., Aug. 2, 1913.*)

MEAT AND BEEF JUICES *

Report of the Council on Pharmacy and Chemistry

The following was submitted to the Council by a sub-committee:

To the Council:—While meat extracts contain only traces of coagulable proteids and have little food value, meat juices are prepared by a process which ensures the presence in the finished product of considerable quantities of coagulable proteids and they therefore have considerable value as foods. Many preparations which are sold as beef juices or meat juices have no right to these designations. Since the public and physicians are likely to be misled by the names given to these products and by the false claims which are made for them as foods and depend on them in the nourishment of the sick, it is important that their composition and their value as foods should be known.

In the following report is presented the results of an examination of some of the commercial products found on the American market. The report shows that *Wyeth's Beef Juice* (John Wyeth & Bro., Philadelphia), *Bovinine* (The Bovinine Co., New York), *Carnine* (Carnine Co., Fougere & Co., New York), and *Valentine's Meat Juice* (M. J. Valentine, Richmond, Va.) are sold under names which are incorrect, that their composition is not correctly stated by the manufacturers and that false and misleading statements are made in regard to their value as food.

It is recommended that the products named be refused recognition for conflict with Rules 1, 6 and 8. Since these preparations are typical of many others on the market, and as their use is a menace to the public health it is recommended that the report be published.

This report was adopted by the Council.

W. A. PUCKNER, Secretary.

Beef or meat juices are clearly to be distinguished from beef or meat extracts. The word "juice" applies solely to the fluid portion remaining in fresh meat after proper cooling and storing and may be obtained by pressure or diffusion with or without a low degree of heat. Under heavy pressure freshly chopped meat will yield from 25 per cent. to 40 per cent. of a thick reddish juice and if the meat is

* See also following report on Valentine's Meat Juice and article on Meat Extracts and Meat Juices, p. 470.

previously frozen or heated to 60 C., as much as 50 per cent. may be obtained. This gives some idea as to the probable cost of preparing beef juice at home. The chief characteristics of meat juice are the presence of a considerable proportion of coagulable protein and a low content of meat bases. That above represents the nature of these commodities as usually understood by the medical profession, is clearly shown by this quotation:¹

"One or two teaspoonfuls of this (meat juice) are added to a teacupful of cold or warm water, which, however, must not be boiling, or otherwise the albumin would be coagulated, but it may, however, be sufficiently warm to drink comfortably."

Beef juice is considered by some physicians of much dietetic service and believed to represent liquid food in concentrated form. W. O. Atwater,² relative to this product says:

"Beef juice obtained from the best steak which has been merely warmed through over the coals and then entirely deprived of soluble substance by a screw press, is undoubtedly the most concentrated of the liquid foods."

The latter authority gives a number of analyses of beef juices prepared under known conditions.

DEFINITION OF MEAT JUICE

Meat juice is defined by the standards committee of the Association of Official Agricultural Chemists as the fluid portion of muscle fiber obtained by pressure or otherwise, and may be concentrated by evaporation at a temperature below the coagulating point of the soluble protein. The solids contain not more than 15 per cent. of ash, not more than 2.5 per cent. of sodium chlorid (calculated from the total chlorin present), not more than 4 nor less than 2 per cent. of phosphoric acid (P_2O_5), and not less than 12 per cent. of nitrogen. The nitrogenous bodies contain not less than 35 per cent. of coagulable proteins and not more than 40 per cent. of meat bases.

Meat juices of commerce are supposed to be made by subjecting properly prepared meat to heavy pressure with subsequent concentration of the juice *in vacuo* at a low temperature. The latter is necessary because if the temperature is raised to any material extent the valuable coagulable, soluble proteins referred to above are precipitated and lost. In order to establish a basis of comparison relative to the composition of natural raw beef juice a number of samples were prepared under known conditions and submitted to analysis. The results contained in the subjoined table clearly show that meat juices made under known conditions vary

1. Brunton, Sir Lauder: "Disorders of Assimilation, Digestion, etc.," p. 183.

2. Bull. No. 21, U. S. Dept. Agricult., Office of Experiment Stations.

according to the mode of preparation, but it is evident that practically one-half of the nitrogen is present as coagulable protein.

FOOD VALUES

In order to arrive at the food value of any commodity it is necessary to consider its chemical composition, available potential energy, absorbability, etc. On referring to the analytical table it will be found that the amount of inorganic material in meat juices Nos. 7 and 10 is unduly high. It appears that sodium chlorid, per se, has been added to both Bovinine and Wyeth's Beef Juice probably as a preservative in the latter and for condimental purposes in the former. The relative and absolute proportions of phosphatic material in both products is excessive. The other constituents present in the ash are those usually found in meat products.

The amount of sugar and glycerin in Carnine is interesting. These agents may be added for preserving purposes, but the resulting product, on account of its syrupy appearance, leads to the belief and is so represented, that it is a concentrated food. Glycerin is also present in Bovinine and Valentine's meat juice. Bovinine in addition contains about 8 per cent. alcohol.

The total nitrogen content of the trade products excepting Carnine, is greater than the amount of nitrogen present in meat juices proper, but the relative amount of nitrogen present as coagulable protein—the valuable part of meat juice—is much greater in the latter. In fact, the amount of coagulable protein present in Valentine's Meat Juice may be considered *nil*, which indicates that an unduly high temperature is used in its preparation. In this connection it should also be noted that even a moderate elevation of temperature influences the chemical composition of meat juices. For example, the coagulable matter present in Nos. 3, 4 and 5, is approximately one-half that present in Nos. 1 and 2, which appears to indicate that the best product can be made without the use of any heat whatever. Several of the trade products, namely Nos. 7, 8 and 9, contain about as much coagulable material as meat juice made by heating beef to 60 C. According to the formula appearing in a circular of the Bovinine Company, a part of the coagulable matter is present in the form of egg albumin, but the company claims egg albumin is not used at present. In the case of Carnine, the coagulable matter appears to be introduced by the use of blood itself. The exact nature of the coagulable protein matter in Wyeth's Beef Juice has not been ascertained. It is well known to manufacturers and physiologic chemists that it is practically impossible to manufacture a genuine meat juice possessing a reasonable amount of coagulable proteins, which is stable without a preservative.

Meat juices, in addition to the coagulable protein material, contain other protein bodies such as albumoses and peptones. These bodies are largely formed from the original protein bodies present in the meat juice during the process of manufacture. They are highly nutritious and largely and readily absorbed from the alimentary canal, but the amount of these bodies present in the trade products is relatively small excepting in Bovinine, which is not a meat juice, particularly when the high prices are considered.

A considerable proportion of the nitrogenous matter contained in Valentine's and Wyeth's products is present in the form of amino bodies frequently included in the general term, "extractives." These bodies may be oxidized in the body and thus supply heat in a manner similar to alcohol, but it should be remembered that there still appears to be a wide difference of opinion among various observers on this point. Some appear to be of the opinion that the amino bodies are devoid of food value in that these bodies appear in the urine practically unchanged. It would, therefore, appear that the value of the amino bodies is largely of a stimulant character.

The food value of meat juices, therefore, resides largely, if not solely, in the coagulable and other protein material present. Comparing the calorific value or potential energy available in meat juices proper on this basis with that present in the commercial products, excluding Bovinine, it will be seen that on the average the genuine meat juices—that is, those made by pressure, direct from the meat itself as wanted—are much superior to the commercial products, notwithstanding the marked concentration in some cases. The calories given in the accompanying table do not include sugar, alcohol or any other added material of this character.

WYETH'S BEEF JUICE

"Wyeth's Beef Juice" is not a true beef juice, but resembles rather a diluted meat extract. It contains much added inorganic matter, is low in coagulable proteins, and considering the degree of concentration, relatively deficient in nutritive value. Some of the claims contained in the circular accompanying this preparation, in view of its composition set forth above, may be of interest:

"Wyeth's Beef Juice . . . , containing two fluid ounces and representing three pounds of prime lean beef,"

" . . . beef extracts made by the Liebig process are utterly devoid of the valuable and nutritious albuminous constituents of meat,"

[Wyeth's Beef Juice] "should not be compared with ordinary beef extract,"

BOVININE

Bovinine, advertised as a "condensed beef juice prepared by a cold process" is a mixture of alcohol, glycerin, added

COMPOSITION OF MEAT JUICES

Name of Preparation	Per cent. volatile matter 100 C.	Per cent. inorganic matter	Per cent. sodium chloride	Per cent. phosphoric pentoxide (P ₂ O ₅)	Per cent. ether extract, glycerol and undeter-mined matter	Per cent. total nitrogen	Per cent. coagulable proteins (N × 6.25)	Per cent. other proteins (N × 6.25)	Amino bodies (N × 3.12)	Calories per 500 gm. obtained from protein factor 4.8	Calories per 500 gm. obtained from amino bod-ies factor 0.56
Chuck beef, cold pressed.....	86.85	1.83	.20	.31	1.32	1.74	6.13	2.94	.90	217.68	2.52
Round beef, cold pressed.....	85.76	1.33	.12	.37	.75	2.08	8.56	2.37	1.03	262.32	2.88
Chuck beef pressed at 60 C.	91.50	1.29	.19	.29	.81	1.09	2.56	2.50	.84	121.44	2.35
Chuck beef pressed at 60 C.	89.56	1.27	.16	.37	2.98	1.09	3.00	2.63	.56	135.12	1.57
Round beef pressed at 60 C.	90.65	1.36	.16	.36	2.09	1.16	4.25	.31	1.34	109.44	3.75
Chuck beef heated six hours before pressing 60-100 C. ...	98.11	.39	.05	.12	.25	.24	....	1.00	.25	24.00	.70
Beef Juice, John Wyeth & Bro., Philadelphia, Pa.	58.84	16.21	6.71	3.27	12.51	3.15*	2.88	3.56	6.00	154.56	16.80
Bovinine, The Bovinine Co., 75 W. Houston St., New York City	80.40†	1.55	1.05	.09	3.64||	2.36	3.38	10.75	.28	339.12	.78
Carmine Co., Lefranco, Paris, France; Imported by Fougere & Co., Agents, New York City.....	24.80§	.86	.09	.33	08.94¶	.96	2.25	2.56	.59	115.44	1.65
Meat Juice, M. J. Valentine, Richmond, Va.	57.64	10.26	1.77	3.41	50.41#	3.06†	.19	5.44	6.06	135.12	16.97

* Including 0.20 per cent. as NH₃; † including 0.22 per cent. NH₃; ‡ 8.17 per cent. alcohol found; § vacuum 70 C.; || 3.1 per cent. glycerol found; ¶ 47.50 per cent. cane sugar—14.2 per cent. glycerol found; # 8 per cent. of glycerol found.

The several samples of beef juice were prepared from practically fat free, finely comminuted, chuck and round beef, first by pressure at the ordinary temperature; second, by heating the prepared meat for several hours at 60 C., then submitting to pressure. Sample No. 6 was made from chuck beef, prepared as above, by heating six hours at from 60 to 100 C., and expressing after cooling. It is not a beef juice proper but was prepared, analyzed and added to the list for information. Its composition resembles several commercial articles closely. A number of products represented and sold as meat juice in the United States were analyzed and the results recorded in the accompanying table.

sodium chlorid, and apparently some form of defibrinated blood. According to the manufacturer's literature egg albumin was used formerly but this ingredient is said to be no longer employed. It is not a meat juice in any sense of the word. Numerous misrepresentations will be found on the label and in the literature of Bovinine, of which the following are typical:

"The blood of selected steers prepared by a cold process, furnishing a perfect food, free from insoluble elements."

"The rapidity with which Bovinine is absorbed and assimilated in the stomach . . ."

"It supplies complete nutrition to the patient."

"Bovinine contains all the elements of the animal, vegetable and mineral kingdoms for the production of new blood with great rapidity. Its principal constituents have been selected with a view to furnish the largest amount of nutriment in the most condensed form and all the resources of modern chemical analysis have been brought to bear on this important problem."

A series of experiments carried out with dogs under anesthesia, by injecting Bovinine into the stomach, the pyloric end of which was ligated, shows that Bovinine is not readily absorbed and assimilated by the stomach as claimed. The amount of protein material found in the stomach at the end of one-half hour to one hour and a quarter was practically equal to the amount introduced by the Bovinine.

It is also represented that Bovinine is of great service in case of an irritable stomach. This is not borne out by experiment. Bovinine fed to dogs by the mouth, either alone or mixed with food, induced vomiting, which was less marked when Bovinine was given with the regular diet. An examination of the urine of these animals showed a marked diminution of the amount of indican, while the ethereal sulphates were enormously increased, both absolutely and relatively, when Bovinine was given. Experiments on rabbits have shown that Bovinine injected into the peritoneal cavity was invariably followed by large quantities of albumin in the urine, which persisted for from twenty-four to forty-eight hours. Thirty to 50 c.c. per kilo given by mouth daily caused emaciation and weakness; in some cases, irritation of the gastro-intestinal canal, with death of the animal in from seven to twelve days.

CARNINE

Carnine is a French preparation imported into the United States by Fougere & Co., of New York City. In physical appearance it looks like highly concentrated food, but analysis shows that it consists of a small proportion of defibrinated blood dissolved in a mixture of syrup and glycerol, the whole agreeably flavored. It is represented as a "juice of rare meat, prepared by cold process. Each tablespoonful represents 100 gm. of raw meat, or 3½ ounces." It is clear that Carnine is not a meat juice in any sense of the word.

VALENTINE'S MEAT JUICE

Valentine's Meat Juice resembles in physical appearance taste, odor and by chemical analysis a diluted meat extract. The nutritive value of meat extracts is virtually *nil*, as is well known by the medical profession. Notwithstanding the composition of Valentine's Meat Juice and the fact that beef extract represents little nutritive value, the manufacturer makes the following misleading representations:

"The two-ounce oval bottle, adopted for the Meat Juice contains the concentrated juice of four pounds of the best beef, exclusive of fat; or the condensed essence of one and a half pints of pure liquid juice which is obtained from the flesh of beef."

"The use of *hot water* with the Meat Juice *changes its character and impairs its value.*" [Italics in original.—Ed.]

The company must certainly be aware of the fact that its product contains little, if any, coagulable proteids.

CONCLUSIONS

In conclusion: Neither Bovine nor Carnine is a meat juice, the former is anything but palatable and the latter soon cloy. "Valentine's Meat Juice" and "Wyeth's Beef Juice" are virtually diluted meat extracts, which are known to possess little food value. A physician depending on any of the foregoing products to supply material nourishment, in case of serious illness, is deceiving himself, starving his patients, and may be lessening their chances for recovery. If a patient recovers while using these commodities, it is certainly not due to the food value contained in them—(From *The Journal A. M. A.*, Nov. 20, 1909.)

VALENTINE'S MEAT JUICE*

Report of the Council on Pharmacy and Chemistry

Some time ago the Council authorized publication of a report* dealing with the composition and claims made for a number of the more generally advertised meat and beef juices. Among these was Valentine's Meat Juice. This it was shown was sold under an incorrect name, the claims for its composition were not truthfully stated and its exploiters made false and misleading claims in regard to its food value. As Valentine's Meat Juice is still widely advertised the referee in charge of this class of products deemed a reexamination of the product advisable. This was made and on it was based the following report which has been submitted to the Council, adopted, and its publication authorized.

W. A. PUCKNER, Secretary.

* See also preceding report on Meat and Beef Juices, and article on Meat Extracts and Meat Juices, p. 470.

Your referee has had examined recently purchased specimens of Valentine's Meat Juice (Valentine's Meat Juice Company, Richmond, Va.). The examination shows that it has virtually the same composition as that given in the report of the Council "Meat and Beef Juices" published in *THE JOURNAL*, Nov. 20, 1909. It contains practically no coagulable protein material, one of the products characteristic of a meat juice. It is essentially a diluted meat extract.

The following statement found in former circulars now seems to have been eliminated:

"The two-ounce oval bottle, adopted for the Meat Juice contains the concentrated juice of four pounds of the best beef, exclusive of fat; or the condensed essence of one and a half pints of pure liquid juice which is obtained from the flesh of beef."

An endeavor is still made, however, to convey the idea that the product contains coagulable protein, as shown by the following:

"Boiling water changes the character of the preparation."

"The use of boiling water with the Meat-Juice changes the character of the Preparation."

The proprietors undoubtedly know that the product does not contain any coagulable material and that the statements just quoted are plain misrepresentations.

The advertising circular contains a large number of "Testimonials of the Medical Profession." As all are undated, one cannot tell how old these testimonials are. One physician recommends it highly for hypodermic use; another says, "I have kept cases on it and it alone for days, without attempting to give any other food, and the results have been entirely satisfactory." According to another, it is "most invaluable in typhoid fever and also in diphtheria."

Valentine's Meat Juice conflicts with the following rules of the Council:

Rule 1, in that its composition is not correctly given;

Rule 6, in that unwarranted therapeutic claims are made, the profession being led to believe that the product is highly nutritious and is valuable in the treatment of pneumonia, diphtheria and typhoid fever;

Rule 8, in that the name is objectionable, for while sold as a meat juice, in reality it has the character of a meat extract.

Valentine's Meat Juice is a fraud on the public, and in view of its continued exploitation under false claims, the referee recommends that the Council reiterate its former condemnation and authorize the publication of this report.

[EDITOR'S NOTE.—The difference between meat extracts and meat juices was fully discussed in the previous report of the Council. Meat "juices" are made by the cold expression of meat with subsequent evaporation, in such a way that the nutritious coagulable proteins remain in solution. In making meat "extracts," heat is used which almost completely

removes the coagulable proteins and thus renders it practically devoid of nutrient qualities.

A list of some of the medical journals that carry advertisements of Valentine's Meat Juice, follows:

Pediatrics

Virginia Medical Semi-Monthly

Old Dominion Journal of Medicine

Medical Times

& Surgery

American Medicine.—(From The

Medical World

Journal A. M. A., May 2, 1914.)

MEDICINAL FOODS

A report, of which the following is an abstract, was submitted to the Council on Pharmacy and Chemistry by the subcommittee which examined the medicinal foods:

In order to determine the food value of any food product it is necessary to consider the following points: Chemical composition; available potential energy; absorbability and cost. No attempt is made in this article to discuss each of these features separately, but they are utilized as required.

The ingredients on which the food value of any article of food depends are the proteid substances, carbohydrates, fats, certain inorganic bodies and—under certain conditions—alcohol. The amount of each of these present in a preparation must be established by chemical analysis. From the results thus obtained it is possible to calculate the potential energy represented by a given food product. In this report the potential or food value is expressed in the large or kilocalorie, that is, the amount of heat required to raise the temperature of one kilogram of water one degree centigrade.

The factors employed in this report for expressing in calories the actual amount of energy utilized by the system are 4.8 for proteid substances, 4.1 for carbohydrates, and 9.2 for fats.

The accompanying table embodies the results obtained by submitting all the well-known so-called "predigested foods" to chemical examination. The table as published in THE JOURNAL included columns on: Price of bottle, number of cubic centimeters in a bottle, cost per 500 cubic centimeters, reaction, specific gravity, percentage of non-volatile residue, ash, percentage of nitrogen, calories as proteids in 500 grams, carbohydrates before inversion, alcohol by volume, average recommended adult dose per diem in cubic centimeters, cost per diem to supply 1,430 calories. These columns were eliminated from this abstract, as they were unessential, so far as the practical value of the article is concerned. In most cases two samples of the same brand were purchased at an interval of about six months. All the analyses were made before Jan. 1, 1907. Some of the preparations contain much glycerin which does not, so far as known at present, possess any recognized food value, although there are a number of experiments on record to indicate that it influences metabolism.

The percentage of nitrogen accredited to each of these products represents the total amount of nitrogen, irrespective

of the nature of the nitrogenous substances, although some of this nitrogen has no nutritive value.

By multiplying the percentage of nitrogen found by the factor 6.25 we obtain the percentage of nitrogenous matter (proteids) contained in the various preparations. By multiplying the number of grams of nitrogenous matter present in 500 grams of material by the factor 4.8 it is found that the potential energy available by the nitrogenous matter varies from 10.3 calories to 153.1 calories. Five hundred grams of the material is made the basis of calculation, because it approximates a pint, the amount usually believed to be present in the various trade packages, and because it affords a ready basis of calculation.

The carbohydrates are represented by cane sugar, maltose, dextrin and invert sugar. Lactose is probably also present in some, but it is impossible to establish this. By multiplying the number of grams of carbohydrates present in 500 grams of the foods by the factor 4.1 we obtain the potential energy represented by the carbohydrate, which varies from 11.3 to 319.2 calories. The total calorific value of both proteids and carbohydrates ranges from 54.7 to 397.5 calories. The total food value of an equal quantity of milk, including fat, approximates 360 calories.

The value of alcohol as a food product pure and simple in disease is, however, an open question. There is no doubt whatever but that it acts to a certain degree as a food even here, not as a tissue builder, but as a saver of fat and carbohydrate material, and in order to give the preparations in question full value as food products, the calories represented by the alcohol, are credited to each preparation, as are the proteids and carbohydrates. The factor usually recognized for expressing the calorific value of alcohol is 7. By multiplying the number of grams of alcohol present in 500 grams of material by 7, the number of calories varies from 420 to 658.

On looking over the literature and printed matter distributed by some manufacturers, the physician is frequently left under the impression that these preparations contain all the essential constituents necessary for maintaining normal nutrition of the body, as is clearly shown by the following quotation: "Contains sufficient nutritive material to maintain normal nutrition of the body, a valuable food in typhoid fever, pneumonia, tuberculosis, . . . and all the conditions of the system associated with enfeebled digestion and malnutrition."

In order to show the insidiousness of such representations it is only necessary to give the actual food value of the average daily dose (the average amount to be taken for twenty-four hours) recommended by the various manufacturers for their products. The average adult daily dose recommended varies from 50 to 150 c.c. The total available calories per daily dose based on the proteid and carbohydrate bodies varies from 9.8 to 110.5. Adding to these figures the amount of energy represented by the alcohol, in each case, the total available calories varies from 55.0 to 299.5. The

TABULATED RESULTS OF EXAMINATIONS OF MEDICINAL FOODS

Name of Preparation and Manufacturer	Glycerin and unde- termined matter	Per cent nitrogenous matter (6.25)	Calories as proteids in 500 grams	Carbohydrates after inversion	Calories as carbohy- drates in 500 grams	Calories as proteids and carbohydrates in 500 grams	Alcohol, by weight	Calories as alcohol in 500 grams	Calories as proteids and carbohydrates per diem dose	Total calories in per diem dose *	Number c.c. required per diem to supply 1,430 calories
Carpanutrine—John Wyeth & Brother.....	28.45	4.28	102.7	5.34	109.5	212.2	12.5	437.5	25.5	78.0	1,100.7
Carpanutrine—John Wyeth & Brother.....	21.29	6.24	149.8	5.78	118.5	268.3	14.0	490.0	32.2	91.0	942.9
Liquid Peptones—Eli Lilly & Company.....	3.63	4.50	108.0	6.05	124.0	232.0	18.0	630.0	69.6	258.6	829.4
Liquid Peptones, with Creosote—Eli Lilly & Company.....	4.34	3.84	92.2	13.47	276.1	368.3	18.0	630.0	110.5	299.5	716.2
Nutrient Wine of Beef Peptone—Armour & Company.....	14.97	0.64	15.4	15.43	316.3	331.7	17.5	612.5	66.3	188.8	757.4
Nutrient Wine of Beef Peptone—Parke, Davis & Company.....	13.70	0.43	10.3	15.57	319.2	329.5	17.0	595.0	65.9	184.9	773.3
Nutritive Liquid Peptone—Parke, Davis & Company.....	1.02	1.86	44.6	12.89	264.2	308.8	18.8	658.0	74.2	232.1	739.5
Nutritive Liquid Peptone—Parke, Davis & Company.....	1.95	1.16	27.8	13.19	270.4	298.2	17.7	619.5	71.5	220.2	779.2
Peptonic Elixir—Wm. Merrell Chemical Company.....	3.21	2.54	61.0	11.46	234.9	295.9	16.5	577.5	53.3	157.2	818.6
Tonic Beef S & D.—Sharp & Dohme.....	12.91	3.40	81.6	2.38	48.4	130.0	12.0	420.0	13.0	55.0	1,300.0
Tonic Beef S & D.—Sharp & Dohme.....	12.63	3.28	78.7	2.22	45.5	124.2	12.4	455.0	12.4	57.9	1,234.4
Liquid Peptone—Stevenson & Jester Company.....	0.44	1.31	43.4	0.55	11.3	54.7	13.0	420.0	9.8	85.4	1,506.8
Cow's Milk (3.8 per cent. fat).....	.....	3.50	84.0	4.80	98.4	182.4	....	....	7.3	1,429.6	2,000.0

* Total calories per diem dose includes the calories of alcohol in the liquid medicinal foods and the calories of the fat in milk.

number of calories per diem in sickness should not fall much below 1,500 during twenty-four hours.

In order to get a fair conception of the actual food value of these various preparations, it is desirable to make some comparison which can be readily comprehended by every physician. The amount of good milk necessary each twenty-four hours to sustain the vitality of a patient during a serious illness is not less than 64 ounces, or approximately 2,000 c.c. The food value in calories represented by this amount of good milk may be placed at 1,430. This includes not only the proteid and carbohydrate matter, but the fat as well. By comparing this available potential energy with the total energy available in the predigested foods under consideration, it can be readily seen that if a physician depends on the representations made by some of the manufacturers, and feeds his patient accordingly, he is resorting to a starvation diet. The largest number of available calories, including alcohol, present in any of the recommended daily doses, is less than one-fifth of the number of calories represented by 2,000 c.c. of milk; and the calories represented by the daily dose of the preparation poorest in food products is only one-twenty-fifth of the amount present in 2,000 c.c. of milk. These figures tell their own story.

Making 2,000 c.c. of milk the basis of calculation, and estimating the amount of the various preparations required to yield this number of calories, it is found that the quantity to be administered daily to supply 1,430 calories, including alcohol, varies from 716.2 to 1,506.2 c.c. In many cases the amount of alcohol exhibited by these quantities would keep the patient in an alcoholic stupor continually. The cost necessary to supply this energy varies from \$1.48 to \$3.39. Compare these prices with the cost of two quarts of milk. Is further comment necessary?

It is urged in justification of the use of preparations of this class that they contain constituents not found in our ordinary foods and in a more perfectly assimilable condition. As pointed out above, these so-called predigested foods contain no fats; the carbohydrates in them are the ordinary sugars present in our common foods, while the proteins belong to the peptone or albumose class. It is for these latter that the greatest claims are made, but even here no value can be pointed out not found in whey, peptonized full milk or peptonized skimmed milk.

There is likewise another point of considerable importance to consider in this connection. The terms *peptone* and *albumose* include bodies of very uncertain composition, and their suitableness as food substances depends largely on how they are prepared. Animal experiments have shown that nitrogen equilibrium may be maintained, for a time at least, by use of enzymic hydrolytic products of the proteins, even where the hydrolysis has been carried far beyond the so-called peptone stage, but it appears to be likewise true that the mixtures secured by acid or high temperature steam hydrolysis have no such value. Some of these, indeed, may exhibit a toxic behavior. This is true in particular of some of the commercial varieties of peptone, and until more is

known of the source of the bodies of protein character employed in the makeup of these "predigested" mixtures it is unwise to assume anything concerning the food value of the nitrogen compounds found in them by analysis or even to dignify them by the name of foods.—(*Abstracted from The Journal A. M. A., May 11, 1907.*)

MIGRAININ

Report of the Council on Pharmacy and Chemistry

The Council, having voted to rescind the acceptance of Migrainin and to omit it from New and Nonofficial Remedies (Appendix), directed publication of the report given below.

W. A. PUCKNER, Secretary.

SUPPLEMENTAL REPORT ON MIGRAININ

To the Council:—Koechl & Co., American agents for Migrainin (Meister Lucius & Bruning) asserted that this preparation was a mixture of antipyrin 85 parts, caffen 9 parts and citric acid 6 parts. The experiments of F. Zernik (*Apoth.-Ztg.*, 1906, p. 686), however, showed that Migrainin consisted of antipyrin 90.88 parts, caffen 8.4 parts and citric acid 0.45 parts. When the attention of Koechl & Co. was called to this they informed the Council, on June 20, 1907, that the formula they gave was given them direct by the manufacturers abroad and that they, Koechl & Co., did not question its accuracy. They, however, offered to "write abroad and have the manufacturers confirm the formula as given." On July 23, 1907, Koechl & Co. wrote the secretary of the Council that the manufacturers had informed them that Migrainin contains 90 per cent. antipyrin and 9.1 per cent. caffen citrate. This being an acknowledgment that the former statement submitted was incorrect, the Council voted that the approval of Migrainin should be reconsidered. Examination of the product, therefore, was taken up in the Association's laboratory and an original specimen, purchased in Chicago, was found to contain moisture 0.7 per cent., antipyrin 90.93 per cent., and instead of caffen citrate 9.1 per cent., citric acid 0.51 per cent., caffen 8.53 per cent. This analysis agreed essentially with the composition of Migrainin as found by Zernik.

While the discrepancies between the statement of the firm and the facts are perhaps not great, nevertheless they show that even the formula last given is incorrect, and that the statements of Koechl & Co., while no doubt made in good faith, were in this instance unreliable.

In recent advertising matter issued by Koechl & Co., "phenozone-caffen citrate" is given as a synonym for Migrainin, one circular stating that "Migrainin is phenozone-caffen citrate," etc. In the same circular the following also appears: "In the treatment of migraine with phenacetin or

antipyrin, the attack is delayed, while with Migrainin it is usually permanently stayed." This will, no doubt, lead physicians to infer that Migrainin is not a mixture of antipyrin and caffein citrate, but that it is some new compound. While the firm disclaims any intention to mislead, it does not offer to withdraw or modify this circular. It is recommended, therefore, that the approval of Migrainin be rescinded and that it be omitted from New and Nonofficial Remedies.—(*From The Journal A. M. A., June 5, 1909.*)

NEURILLA

Report of the Council on Pharmacy and Chemistry

The following report was adopted by the Council. Its publication was authorized to show how a practically worthless mixture may be exploited by means of ill-considered testimonials.

W. A. PUCKNER, Secretary.

Neurilla, which appears to be the sole product of the Dad Chemical Company, New York, is advertised as

"The Ideal Nerve Calmant."

"... a nerve tonic . . . indicated in cases where the nerve centers are poorly nourished and over-sensitive . . ."

"... a stimulant to the nervous system."

"A Valuable Aid in the Treatment of Fevers, Colds, La Grippe, etc."

The following non-quantitative and indefinite formula is given on the label of a recently purchased bottle of Neurilla:

"Prepared from Scutellaria Lateriflora, Passiflora Incarnata and Aromatics."

"Proportion of Alcohol 20.3%."

"Made by Dad Chemical Co., New York, U. S. A."

"Dose, One Teaspoonful Four Times a Day."

According to the formula, then, this mixture contains, aside from alcohol and aromatics, two vegetable drugs, scutellaria and passiflora, on which the alleged virtues of the preparation must be presumed to depend.

Scutellaria lateriflora, or skullcap, is a bitter drug, one of the many "herbs" to which, on wholly unreliable "clinical evidence," therapeutic properties were at one time ascribed. Most pharmacologists do not mention the drug, and those who do generally state that it has very feeble therapeutic properties. It was admitted to the Pharmacopeia, but in 1909 its deletion was recommended by a committee of the Section on Practice of Medicine of the American Medical Association (*THE JOURNAL A. M. A., Sept. 4, 1909, p. 792*). We understand that the next edition of the Pharmacopeia will omit mention of skullcap.

Passiflora incarnata, or passion-flower, is another "herb," which, although known for about seventy years, has never gained the confidence of the medical profession and has not

even been admitted to the Pharmacopeia. According to a Council Report:

"None of the evidence is sufficient to show that *passiflora* has therapeutic value; hence it is deemed inadvisable to include the drug in the list of nonofficial remedies" (THE JOURNAL A. M. A., March 19, 1910, p. 983).

On these two obsolescent "herbs," then, rest the remarkable claims made for Neurilla. A certain degree of appetizing effect may be expected from the bitter taste and a very slight degree of physical stimulus from the alcohol. Except for these effects—and they are largely delusive and temporary—the preparation is therapeutically inert and worthless.

The evidence on which the manufacturers of Neurilla base their therapeutic claims appears to consist of testimonials from physicians. As a matter of fact, this is true of practically all of the large group of nostrums of which Neurilla is typical. An analysis of these Neurilla testimonials brings out clearly what such "evidence" is worth.

ILL-CONSIDERED TESTIMONIALS

The testimonials for Neurilla have been given with reference to indefinite conditions of nervousness that border on the psychic and include hysteria, neurasthenia, neuralgia and the like. Nervousness and indigestion are two diseases in which suggestion, especially when aided by bitters and alcohol, produces temporarily a feeling of improvement. As an illustration, take the following testimonial:

"But more striking was the following case: One evening between 5 and 6 o'clock I was sent for, family lives near me, and I was informed that the young lady had promised to be bridesmaid, a function she had never performed. Her mother said the daughter would certainly drop in her tracks as she walked up to the altar with the procession, and they had about concluded to send a note saying to the parents of the bride that she could not come, although that would be very disagreeable (and no less offensive, said I). They agreed with me. I ordered Neurilla for two hours. She went to church, and, I was informed the next morning, passed through the dreaded ordeal simply fatigued, and was now fast asleep on account of the nice effect of Neurilla."

It might provoke a smile to think that a manufacturer would publish so silly a testimonial were it not that the very fact of its publication indicates that there are medical men thoughtless enough to read and accept such stuff as reliable evidence as to the value of any product.

TESTIMONIALS GIVEN LONG AGO—THE REMEDY ABANDONED

A number of physicians who had given testimonials were asked in writing whether the testimonials were genuine and whether they still entertained the high opinion of Neurilla expressed at a former date. Several replied that, if they had

ever given such testimonials, they had forgotten the circumstance. From the replies received we select the following:

The testimonial which bears Dr. A's name reads:

"I am using Neurilla with most satisfactory results."

Dr. A now says:

"As to its positive value as a therapeutic agent I have not used it enough to know . . . If the language you quote . . . appears as given in or as a 'testimonial' it must in some way be garbled and appears wholly without my knowledge or consent."

Dr. B is quoted as having written:

"I do not often lend my influence to furthering the fame of a proprietary remedy, but I have achieved such excellent results from the use of Neurilla as a calmativie in hysteria and other nervous disorders, that I feel its manufacturers are entitled to an acknowledgment of gratitude from me."

Dr. B writes:

"I have not prescribed a dose of the nostrum in years. The use of my name in connection with Neurilla is unauthorized."

Dr. C once wrote:

"I have used Neurilla with good results."

Dr. C now writes:

"In re 'Neurilla' I think I used the preparation once or twice and it seemed to do good work, but if due to the preparation or other influences, I am not able to verify. I have not used it since nor will, as I am opposed to using these preparations except in certain cases where the Rx contains remedies whose value I have verified under the most rigid tests.

.....
"P. S. This testimonial must have been given many years ago."

Dr. D's testimonial is admitted to be based on a single case:

"I am using Neurilla in a bad case of neuralgic tic with very good results on an aged lady. She has taken several bottles, and is still taking it with very good results."

Dr. D sums up his later experience by saying:

"I have long since abandoned the use of Neurilla in practice."

The following bears Dr. E's name:

"I endorse Neurilla without hesitation. It meets all indications for which it is intended."

This is what Dr. E writes now:

"As to the enclosed testimonial in regard to Neurilla said to be written by me I have no recollection. I am not prescribing Neurilla."

Dr. F's experience is similar. The testimonial credited to him reads:

"I have prescribed Neurilla in nervous disorders with good results."

Dr. F now writes:

"I don't remember of ever having prescribed 'Neurilla' or of having given a testimonial for it or any other patent medicine if I knew it to be so."

SUMMARY

In the booklet from which the foregoing are taken, there are forty testimonials. Those which we quote are merely samples. To sum up the results of this analysis: Of the testimonials some are said to be unauthorized; a number were written with so little thought that the writers had since forgotten their very existence; the conclusions expressed in most are not in fact justified by the writers' mature judgment and experience. A number of writers admit that their experience is insufficient to determine whether the supposed good results were due to the medicine used or to other influences. Of course such evidence is unworthy of credit and happily, very little is now being furnished by doctors; even our courts refuse to admit it.

In short, the published formula shows that Neurilla is nothing more than a preparation of discredited drugs; it is exploited largely by means of carelessly formed and thoughtlessly expressed opinions of physicians. It is recommended that this report be published as an illustration of such methods and as a protest against them.

[EDITORIAL COMMENT.—Neurilla is advertised in the following publications:

<i>Archives of Pediatrics,</i>	<i>Medical Review of Reviews,</i>
<i>Atlanta Journal Record of</i>	<i>Medical Sentinel,</i>
<i>Medicine,</i>	<i>Medical Standard,</i>
<i>Charlotte Medical Journal,</i>	<i>Pacific Medical Journal,</i>
<i>Indianapolis Medical Journal,</i>	<i>Southern Practitioner,</i>
<i>International Journal of</i>	<i>Texas Medical Journal,</i>
<i>Surgery,</i>	<i>Woman's Medical Journal.</i>
<i>Journal of Nervous and</i>	<i>Eclectic Medical Journal,</i>
<i>Mental Diseases,</i>	<i>Ellingwood's Therapist,</i>
<i>Medical Herald,</i>	<i>Journal of the American</i>
<i>New York Medical Record,</i>	<i>Institute of Homeopathy.]</i>

—(From *The Journal A. M. A.*, March 27, 1914.)

NEUROSINE, DIOVIBURNIA, GERMILETUM AND PALPEBRINE

Report of the Council on Pharmacy and Chemistry

Neurosine, Dioviburnia, Germiletum and Palpebrine are "shotgun" proprietaries typical of the polypharmacy of the past three or four decades. They are marketed by the Dios Chemical Company, St. Louis, Mo. On the recommendation of the referee, the Council has authorized the publication of this report.

W. A. PUCKNER, Secretary.

Neurosine

According to the manufacturers, each fluidounce of Neurosine represents:

"Bromid of potassium, C. P.	40 grains
"Bromid of sodium, C. P.	40 grains
"Bromid of ammonium, C. P.	40 grains
"Bromid of zinc	1 grain
"Extract Lupulin	32 grains
"Cascara sagrada, fl. ex.	40 minims
"Extract Henbane ....	.075 grain
"Extract Belladonna ....	.075 grain
"Extract Cannabis indica ....	.60 grain
"Oil Bitter Almonds ....	.060 grain
"Aromatic Elixirs."	

No physician would think for a moment of prescribing all of the drugs contained in Neurosine for any one condition. Yet physicians are urged to use this nostrum in insomnia, hysteria, neurasthenia, migraine, neuralgia, delirium tremens and in a host of other conditions.

It is recommended in the treatment of epilepsy on this ground:

"Neurosine is presented in a very palatable and agreeable form and can be administered for an indefinite time without untoward by-effects as so often attends the use of the commercial bromides. In order to secure lasting benefits the treatment should be extended over a long period of time."

The evident implication here is that the recognized drawbacks of bromid medication are due to impurities present in the commercial bromids and that the teachings of modern medicine with regard to caution in the use of bromids do not apply in the case of Neurosine.

The assurance is offered:

"Neurosine contains no chloral, morphin or other objectionable drug—a fact of the utmost importance when administering medicines to neurotic women."

"As a nerve-calmativ and sleep-producer nothing can excel Neurosine . . . It should be borne in mind that this preparation contains no opium, morphine, chloral or habit-forming drugs . . . Neurosine being a harmless remedy is especially indicated for neurotic individuals."

Apart from cannabis indica, Neurosine contains no efficient hypnotic. Cannabis indica is a dangerous drug, whose administration to "neurotic individuals" is by no means free from danger—especially when it is given under a proprietary name that carries no warning of its presence.

Here is another recommendation—this time for chorea:

"All authorities recommend the bromides, hyoscyamus and cannabis indica in this disease. These remedies are all combined in Neurosine, the ideal calmativ for both children and adults."

On the contrary, practically "all [medical] authorities" will admit that it is undesirable to keep a child under the influence of bromids if this can be avoided. Such treatment is mentioned only for use as a last resort in extreme cases. Hyos-

cyamus and cannabis indica are mentioned in connection with chorea by few authorities, and then merely as probably valueless.

Not content with recommending the promiscuous use of this already too complex mixture, the Dios Chemical Company advises physicians to combine it with iron, when chalybeate and tonic effects are to be combined with "a nervine," with acetanilid for "irritable cough," headache and neuralgia, with antipyrin in asthma and with Dioiviburnia—another Dios nostrum—in all female ailments.

Dioiviburnia *

Dioiviburnia, another Dios nostrum, according to the label, has the following composition:

"Every fl. oz. contains 3-4 dr. each of the fl. extracts, Viburnum Prunifolium, Viburnum Opulus, Dioscorea Villosa, Aletris Farinosa, Helonias Dioica, Mitchellae [*sic*] Repens, Caulophyllum Thalictroides, Scutellaria Laterifolia." [Lateriflora?—Ed.]

Further, according to the label, Dioiviburnia contains 18 per cent. alcohol. If this statement is correct then the "formula" is false, for the fluid extracts named contain from 25 to 73 per cent. of alcohol. As—according to the "formula"—these fluid extracts constitute three-fourths of Dioiviburnia, the average alcohol-content in the whole mixture must of necessity be much above 18 per cent.¹ According to the makers, Dioiviburnia is "unexcelled" for:

"Amenorrhea, Dysmenorrhea, Leucorrhea, Puerperal Convulsions, Prolapsus Uteri, Menorrhagia, Threatened Abortion, Parturition, Subinvolution, Miscarriage, and a general relaxed condition of the uterus and appendages, together with the various aches and pains peculiar to women."

Around the sample bottle of Dioiviburnia is wrapped a booklet entitled "A Treatise on Uterine Diseases and Obstetrical Hints," said to be "For the Profession Only." The booklet has been prepared, physicians are told, to present "some very valuable suggestions" regarding the treatment of female disorders and the attention of the medical profession is "earnestly" called to the "very remarkable medicine," Dioiviburnia. Further, it is said that Dioiviburnia was devised by the Dios Chemical Company because there was an "absolute necessity" for some really efficient internal treatment in female diseases. The company backs up its statements by such claims as:

* For articles on other viburnum preparations, see pp. 218 and 409.

1. Five of these fluidextracts have their alcohol-content determined by the Pharmacopeia or National Formulary. Three are not recognized and hence their alcohol-content is not defined by law. The alcohol-content of the mixture of fluidextracts said to be in Dioiviburnia has been kindly furnished by five leading pharmaceutical houses. If the lowest alcohol-content of the several fluidextracts is made the basis of calculation, Dioiviburnia should contain at least 30.75 per cent. of alcohol, or more than half as much again as the amount declared on the label.

"The most valuable preparation, therapeutically, ever offered."

"[Contains] every essential for toning up the female organs of generation, and relieving pain."

"A general and special tonic, antispasmodic and invigorating cordial."

While the company directs the attention of physicians to the "well-known, therapeutical effects of each individual constituent" of Dioivurnia, there is in reality little positive evidence regarding the action of any of the drugs contained in the nostrum. Most writers on *materia medica* do not even mention these drugs and the few who do discuss them, either question or deny their medicinal value. But if every drug claimed to be present in Dioivurnia had some actual demonstrated therapeutic properties, it still would be impossible to predict the action of such a combination in the many and varied conditions for which it is exploited. Certainly there is no warrant for such statements as:

"In Painful Dysmenorrhea [*sic*] Dioivurnia is especially indicated, and its continued use will invariably give relief."

"In cases of Leucorrhea of long standing, Dioivurnia, together with local treatment, invariably gives relief."

"Dioivurnia is efficient in cases of subinvolution; it cures by its tonic effects . . ."

The effects of the drugs alleged to be present in Dioivurnia are not such as to justify the hope of either "cure" or "invariable relief." In a way the Dios Chemical Company seems to recognize the inefficiency of Dioivurnia since it frequently suggests that it be used in combination with drugs of known value; but it ascribes all favorable results to its own product:

"In chronic constipation fluid extract of cascara sagrada aromatic may be combined with Dioivurnia."

"In cases of habitual abortion, depending on syphilitic taint, a prescription containing the following should be used during the entire pregnancy:

R	"Hydrarg. Chlor. Corros	gr. 1
	"Potass. Iodid	dram 1
	"Dioivurnia	ounces 16"

"An Anemic or Chlorotic patient, suffering with absence of the menstrual flow, should take DIOVIBURNIA combined with Iron."

"In leucorrhea depending on endocervicitis, hot astringent douches once daily should be given. Local applications of iodine are useful in chronic conditions. Internally, Dioivurnia promotes healing."

"Rest in bed, hot douches of a one-half per cent. solution of compound cresol solution and Dioivurnia internally, a teaspoonful every 3 hours will rarely fail to cure endometritis in a few days."

"In specific vaginitis, a solution of potassium permanganate (1 to 1000) should be used as a douche twice daily. Internally give the following:

"Sodii benzoate	½ ounce
"Dioivurnia	16 ounces
"M. sig., Teaspoonful every three hours."	

"Prolapsus Uteri is benefited, and often cured, by DIOVIBURNIA combined with local treatment in the shape of tampons, pessaries, electricity, etc."

If Dioiviburnia will cure specific vaginitis, anemia, etc., so will a cobblestone make excellent soup. All that is necessary in the former case is to add certain potent drugs that might be indicated in the pathologic conditions mentioned and, in the latter case, to combine suitable amounts of beef, chicken, green turtle or vegetables, with herbs and other seasoning.

Germiletum

Germiletum is a member of the large class of alkaline antiseptic solutions with excessively complex formulas. In this case not only is the formula complex but also the Dios Chemical Company finds it impossible even to assign a constant composition to it—at least the “formulas” which appear on the different styles of Germiletum labels and advertising circulars vary greatly.

The company says:

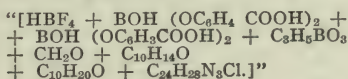
“We appeal only to the Doctor’s judgment of his estimation of the formula.”

“Doctor you will readily determine from the formula the class of cases in which you have a right to expect satisfactory results.”

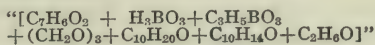
Yet the “formulas” given present so great a variety and such confusion that it is not clear even to a chemist just what the Dios Company wants the medical profession to regard as the composition of Germiletum.

The following statements of “composition” have appeared at various times:

1. In an advertising circular sent out some time ago:



2. In advertising circulars which have been received of late, being wrapped with a sample package and with the “large size” trade package:



3. In another advertising circular:

“Germiletum is a slightly alkaline chemical solution of Borohydrofluoric Acid, Borosallybenzoic Acid, Boroglycerine, Formaldehyde with Menthol, Thymol and Antiseptic Aromatics.”

4. On the label of a sample package sent through the mails during 1914, and on the label of a “small size” trade package purchased in 1914:

“FORMULA.—Borohydrofluoric Acid, Borosallybenzoic Acid, Boroglycerine, Formaldehyde with Menthol, Thymol, Amyl Acetate and other Antiseptic Aromatics.”

5. In the circular which was wrapped around the sample package referred to above, and around the “large size” trade

package purchased at the same time that the "small size" package was bought:

"Germiletum is a slightly alkaline chemical solution of Borobenzoic Acid, Boroglycerine Formaldehyde, with Menthol, Thymol and other Antiseptic [sic] Aromatics."

6. On the sample package, on the "small size" trade package and on the wrappers of the "large size" trade package:

"Alcohol 18 per cent.; Formalin $\frac{3}{4}$ M. per oz.; Amyl Acetate $\frac{1}{3}$ M. per oz." (also written "Acetate Amyl.")

The label on the large trade package states that Germiletum contains "Formalin $\frac{1}{2}$ M. per oz."

One and all of these various formulas spell mystery. The existence of some of the constituents is problematic; even if the theoretical possibility of such combinations be conceded, some of them could not exist in Germiletum, for they would be broken up by the alkaline fluid. As illustrating the contradictions which the formulas present: While the wrapper of the "large size" trade package claims that Germiletum contains $\frac{3}{4}$ minims Formalin (Formalin is a proprietary name for a 40 per cent. formaldehyd solution) the label on the bottle claims only $\frac{1}{2}$ minim. Again, while the composition expressed in chemical symbols asserts that " H_3BO_3 " (boric acid) is a constituent of Germiletum, the "formula" which follows it states that Germiletum has an alkaline reaction; hence it cannot contain much boric acid. Finally, the "small size" bottle of Germiletum purchased at the same time as the "large size" bottle and also the label of a sample package sent through the mails to a physician in 1914, give as a constituent "Borohydrofluoric Acid," which is mentioned neither on the label of the "large size" trade package nor in the pamphlet wrapped around it. The only information which these contradictory "formulas" can convey to a physician is that Germiletum is an unscientific, varying mixture of many drugs.

A trade package, having the name "Germiletum" blown in the glass, bears on the label recommendations for its use in the treatment of "catarrh," "Gastritis, Stomatitis, Gastric and Intestinal Catarrh," "Leucorrhea and Uterine Diseases," "Hemorrhoids," "Whooping Cough," "Tonsilitis and other forms of sore throat" and "Eczema."

The following statement on the label is designed to induce physicians to place false confidence in Germiletum to the danger of their patients:

"The lying-in-room should be thoroughly sprayed with Germiletum. Can be relied upon to destroy the living particles which so generally constitute contagion."

This claim, as well as the assertion which appears on the label of a sample package and of the "small size" trade package that it is "PAR-EXCELLENT IN OBSTETRICAL PRACTICE"

is almost criminal, as Fussell¹ has said, since to depend on any preparation of this sort is to court disaster.

The booklet around the trade package makes the claim that Germiletum "is the best antiseptic"—evidently largely because it is claimed to be "the blandest of all"—and that it is "thoroughly germicidal" and even that it is "the best disinfectant obtainable." It also contains such unwarranted and misleading claims and suggestions as:

" . . . preparatory to all operative work—Germiletum should be used freely in spraying the atmosphere"

"Operative wounds, whether large or small, can be rendered thoroughly antiseptic by freely spraying them with Germiletum. . . ."

" . . . it may be given internally in many dyspepsias and in all zymotic diseases. . . . In such conditions Germiletum is the ideal internal antiseptic and disinfectant."

In the present advertising, no evidence whatever is offered for the value of Germiletum, the Dios Company contenting itself with unsupported claims and cant phrases such as

" . . . the truth is only reached through a final appeal to intelligent practical experience."

In the old circulars only crude, uncritical and meaningless tests to establish the antiseptic value of Germiletum are reported and none whatever as to its germicidal action. In the advertising matter sent out some time ago, for instance, were given "Microscopical, Bacteriological and Chemical Tests, Comparing Germiletum with Carbolic Acid." These tests have no value whatever, unless it be to show the worthlessness of the preparation. This is particularly true as regards a series of experiments on "Germiletum as a Preventive of Lactic Fermentation," in which one part of Germiletum in thirty parts of milk did not prevent fermentation. Such effect as indicated is probably due to the formaldehyd present. The tests show the absurdity of using the preparation for internal and external purposes. The referee challenges the therapeutic claims on the basis that they are extravagant and unsubstantiated. (The Chemical Laboratory of the American Medical Association reports that the alkalinity of Germiletum corresponds approximately to a 1 per cent. borax solution.)

Palpebrine

According to the Dios Chemical Company, Palpebrine is "A Reliable External Ocular Antiseptic" having, it is said, the following composition:

" . . . each fluid ounce contains 1/116 grain Sulphate of Morphia, 1/7 grain Sulphate of Zinc, 1/11 grain Bi-Chloride of Mercury, 5¾ grains Boric Acid, ¾ grain Salicylic Acid."

1. Fussell, M. H.: Dangers of Certain Ethical Proprietary Preparations to Both Physicians and Public, *THE JOURNAL A. M. A.*, Oct. 7, 1911, p. 1196.

The essential virtues ascribed to Palpebrine, according to its makers, are its harmlessness and its therapeutic efficiency due, presumably, to its complex composition:

"Attention is called to the constituents of this formula, each one of which is used by ophthalmologists. Their combination in Palpebrine is such as to blend their action in a very happy manner. Palpebrine acts as an antiseptic, an irritant, an astringent, and a nerve tonic to the mucous membrane of the eye."

"Palpebrine is superior in its action to the remedies now in use. It contains all the constituents of Aqua Conradi . . . But to these are added a number of other agents which will prove it to be of much greater value and give it a broader field for action."

In all external afflictions of the eye the free use of Palpebrine is suggested in such statements as:

"They [general practitioners] will therefore gladly receive from our hands an efficacious preparation which may be used with perfect safety."

"The name of our preparation—Palpebrine, is derived from the Latin *palpebra*, the eyelid, and is well fitted, as it designates at a glance the sphere of action of Palpebrine."

"With the assistance of Palpebrine the general practitioner can successfully treat all cases of external eye disease ordinarily encountered in his practice."

One of the members of the Council staff of clinical consultants calls attention to the fact that much vitally valuable time might be lost in a case of iritis, for example, which being unrecognized, should be treated with Palpebrine on the strength of the Dios Chemical Company's advertisements. Even more dangerous is the recommendation of Palpebrine for the prevention of ophthalmia in the newborn, especially as this recommendation is coupled with an attempt to discredit the established treatment with silver nitrate solution:

"The use of severe remedies for this purpose has been discarded by most physicians. . . ."

While it is doubtless true that ophthalmia neonatorum may be averted by other drugs than silver salts, it is utterly unjustifiable to suggest that the established method of treatment by means of silver salt irrigations has been generally discarded.

[EDITORIAL NOTE.—The four nostrums mentioned above have been grouped together for publication to call attention to one phase of the proprietary business. A fact not mentioned in the Council's report is that these nostrums are manufactured and promoted by a concern that belongs to a type we have often designated "pseudo-chemical" companies. By this is meant companies that are not in the legitimate business of pharmacy or chemistry, but organized to exploit one, two or in some instances half a dozen proprietaries. "Patent medicines" are exploited by this class of "companies." The Dios Chemical Company is not a chemical company, except in name. J. H. Chambers, the founder so far as we can learn, never claimed any special knowledge of chemistry, pharmacy or medicine. The officers at the present time are: J. H. Chambers, president; M. E. Chambers, vice-president;

Leslie T. Chambers, treasurer, and Arthur Chambers, secretary. M. E. is the wife of J. H., and Leslie T. and Arthur are sons.

This is simply one illustration of the fact noted above. Some physicians have been and are prescribing nostrums originated, manufactured and advertised by laymen who are not in the legitimate pharmacy business. In addition, such physicians have been accepting the statements of laymen, not only as to the composition of the nostrums, but as to their use. In every state the practice of pharmacy is regulated by law: before assuming the responsibility of compounding medicines a druggist must have studied and passed an examination in pharmacy. Public safety demands and the law requires it. There are some doctors, however, who will allow laymen who are not chemists, pharmacists or physicians to formulate and compound a prescription and tell them what it is good for and how to use it.

The Dios Chemical Company is not an isolated instance: we have already referred to some; we shall take occasion to refer to others in the future. That such concerns flourish is a reflection not so much on the shrewd laymen who exploit the medical profession—and through it the public—as it is on the physicians who cast their scientific training to the winds and permit themselves to be thus exploited.]—(*From The Journal A. M. A., Jan. 9, 1915.*)

OXYCHLORINE

Report of the Council on Pharmacy and Chemistry

The following report on Oxychlorine has been submitted to the Council by the subcommittee to which it was assigned:

To the Council on Pharmacy and Chemistry:—Your subcommittee submits the following report: The Oxychlorine Chemical Company, 1326 Wabash Avenue, Chicago, states in its advertising literature that:

“Chemically, Oxychlorine is the tetraborate of sodium and potassium combined with oxychlorid of boron, thus: 6 (NaKB₄O₇) BOCl₃.”

Analysis of Oxychlorine showed:

Potassium	12.26 per cent.
Sodium	8.20 per cent.
Chloric acid—ClO ₃	25.32 per cent.
Nitric acid—NO ₃	21.70 per cent.
Boric acid anhydrid—B ₂ O ₃	18.63 per cent.
Water, calculated	13.29 per cent.

Thus, Oxychlorine is not a definite chemical substance of the composition claimed, but instead is a mixture of alkali chlorate and nitrate with boric acid. Assuming that the chlorate is present as potassium chlorate and the nitrate as sodium nitrate, the analysis above quoted corresponds to a mixture approximately as follows:

Potassium chlorate	37.19
Sodium nitrate	29.76
Sodium and potassium tetraborate	2.18
Boric acid	30.52
Undetermined	0.35
	<hr/> 100.00

Your committee recommends that Oxychlorine be not approved and that this report be published.

The report of the subcommittee was adopted by the Council, and in accordance with the recommendation is published herewith.

W. A. PUCKNER, Secretary.

In commenting on the above report it is hardly necessary to call attention to the palpable untruthfulness of the furnished formula or its lack of correspondence to the real composition of the preparation, to the imposing claims made by its pseudo-scientific exploiters or the absurdities, from a chemical standpoint, of the statements made in their literature. These features are more or less common to all nostrums. The physician who prescribes or uses Oxychlorine under the impression that he is getting a definite and unique chemical compound described as tetraborate of sodium and potassium combined with oxychlorid of boron is, according to our chemists, getting simply a mixture of potassium chlorate, sodium nitrate (or, perhaps, sodium chlorate and potassium nitrate), and boric acid in about equal amounts. More than one-third of this mixture is potassium (or sodium) chlorate, drugs by no means harmless.

In order that there may be no suspicion of unfairness to the promoters of the preparation, we quote from one of the advertising circulars sent out by the Oxychlorine Company:

"Oxychlorine owes its recognition as a therapeutic agent to its six principal qualities:

"1. It will oxygenate the blood at the seat of application, maintain nutrition and heal an uninfected solution of continuity of first intention without scar formation.

"2. It will disorganize all pus and ferment-producing micro-organisms, their toxins, ferments and ptomaines.

"3. It will restore an inflamed mucous membrane to its normal condition, except where the membrane is sclerosed or atrophied.

"4. It will destroy pathogenic micro-organisms and their toxins in the blood current.

"5. It will stimulate the blood to absorb more oxygen in the lungs than it at the time carries. [We do not know what this means; perhaps the Oxychlorine Company does.]

"6. It is absolutely harmless to the tissues and will not destroy a living cell."

Surely these people must have access to physiologic and chemical authorities not found in modern medical libraries, or else their esoteric researches into the mysteries of life must have carried them far beyond the ken of our most advanced workers along these lines. The scientific world would receive with great interest information as to how a mixture of potassium chlorate, sodium nitrate and boric acid oxygenates blood, maintains nutrition and causes healing without scar formation. A mixture which will destroy micro-organisms and yet will not destroy a living cell certainly shows a fine sense of selection and discrimination

not heretofore expected of a combination of chemicals or of a chemical compound. How like the wonderful elixir of medieval times, which was to the Christian a tonic and to the heathen a poison!

Here is another claim made for this nostrum:

"Two or three rectal injections of a one or two per cent. solution of Oxychlorine and ten grain doses given six to eight times per day is the best and most reliable treatment for typhoid fever."

If 80 grains of Oxychlorine contain 30 grains of potassium chlorate, three rectal injections each consisting of 1 pint of 2 per cent. solution, would contain approximately 160 grains of potassium chlorate. Such an injection might prove decidedly dangerous, especially when used by one ignorant of its true composition. However, the physician, not the promoters, bears the responsibility.

Oxychlorine sells at \$3.50 a pound; the ingredients can be obtained for about 44 cents a pound. Perhaps the margin of profit is intended as a reward due the promoters for the profound physiologic discoveries announced in their reading matter.—(*From The Journal A. M. A., July 6, 1909.*)

PAM-ALA, ANOTHER WORTHLESS QUININ SUBSTITUTE

Report of the Council on Pharmacy and Chemistry

The following report of a referee on Pam-ala, an asserted malaria specific, was adopted by the Council and its publication authorized.

W. A. PUCKNER, Secretary.

Soon after publication of the Council's report on Sinkina, an alleged malaria specific proved worthless, the referee's attention was called to Pam-ala, which is sold under very similar claims.

According to the advertisements which have been appearing in Southern medical journals, Pam-ala is "A new and effective remedy for MALARIA."

The label describes Pam-ala as "An Effective Vegetable Remedy For MALARIA. Guaranteed free of any Quinine, or other harmful [*sic*] drugs." It is said to be indicated in "Malarial Intermittent and Remittent Fevers, especially curative in Chronic Malaria and Malarial Cachexia and all conditions even where Quinine fails." One tablespoonful three times a day is said to be the "Curative Dose," while one tablespoonful three times a week is stated to be a "Prophylactic Dose." The label further claims that Pam-ala "Surpasses Quinine in its action and has none of its Disadvantages." Assertions that Pam-ala is superior to quinin are followed by the usual "guarantee" claim: "Guaranteed by

the Pam-Ala Co. under the Drugs Act, June, 1906, Ser. No. 2909 A." Finally, the label says that it is "Endorsed by Medical Authorities Throughout the world."

As regards the composition, a circular says that "PAM-ALA is a purely vegetable remedy for the cure, without Quinine, of all forms of Malaria." "'PAM-ALA' is derived from a plant of the genus Umbelliferae, a native of the mountainous regions of Mexico and northern parts of South America. Its medicinal properties have not been known to anyone but the native Indians, who for years past have used it as a specific in all forms of fever and malarial diseases so prevalent in tropical countries. The seeds are more active as a therapeutic agent than the dried-up plant; hence their collection for medicinal purposes requires special skill in the selection of the same so as to be able to extract all the possible medicinal properties from them, viz., its active principle. An oil may be abstracted from the seeds which is of a yellow color with an intense characteristic odor."

At the close of the circular the following unenlightening formula appears:

Each fluid ounce contains:

Ext. Fld. Pam-ala	10 per cent.
Alcohol	15 per cent.
Ol. Aurant Syr. Sacchari aqua ad. q. s.....	100 per cent.

In addition to being a cure for malaria, Pam-ala is claimed to have a "favorable influence upon the broncho-pneumonia of measles . . .," "will avert an attack of acute catarrh," and "abort acute tonsilitis."

The testimonials are of the usual character. Most of them seem to have been given some four years ago by physicians in Italy, Cuba, Porto Rico, Guatemala, etc., and therefore cannot readily be looked into. Two are of more recent date and come from physicians in this country. They furnish good illustrations of the manner in which proprietary concerns make use of opinions hastily formed and thoughtlessly put in writing. One testimonial was given in July, 1912:

"I take pleasure in testifying to the seemingly marvelous and gratifying effect of Pam-ala in 2 cases of malaria. . . ."

On Jan. 2, 1914, its writer, in reply to an inquiry whether in the light of continued experience, his first estimate of Pam-ala had been confirmed, wrote:

". . . Since then I tried Pam-ala on a number of cases without any results whatever; in fact my patients seemed to get worse until I resorted to the usual treatment of malaria, mercurial laxative followed with quinin. I was too hasty in stating that Pam-ala cured malaria. I now know and have known since August, 1912, that Pam-ala will not cure malaria. . . ."

The writer of the second testimonial is reported to have written that he tried Pam-ala "on a most pronounced case of

malarial spleen with the most excellent results" and that he "also tried Pam-ala on a case of Malarial Cystitis and Hematuria, with entire satisfaction." In reply to inquiry this physician admits that he was "very favorably impressed with the preparation at the time." He states that at that time he was also trying out Sinkina and that after six months he "discontinued the use of both as the results did not warrant further investigation." He concludes:

"With due allowance for the fact that certain cases will for a time improve on any kind of treatment, new or old, I see no reason for supplanting or even augmenting, the recognized treatment for malarial conditions, with either Pam-ala or Sinkina."

Incidentally it should be mentioned that this physician also noted the general similarity of Sinkina and Pam-ala. He observes:

"The physical appearance and properties of the two preparations seem to be identical, the advertising matter and literature are surprisingly alike and the only marked difference seems to be that one remedy is purported to be prepared from a 'new' South American plant and the other from an equally fresh discovered addition to Asiatic flora."

WHAT IS PAM-ALA?

From a comparison of the statements regarding the composition which are made for Sinkina and for Pam-ala, as well as from the physical characteristics of the preparation, particularly the odor and taste, it seems evident that the essential constituent is oil of cumin. Although definite proof that oil of cumin forms the essential constituent of Pam-ala would have shown the worthlessness of this nostrum for the reason that the clinical investigation of Sinkina proved the worthlessness of oil of cumin, it did not seem worth while to the referee that this be demonstrated by chemical analysis. It seemed to him that in such cases as these, the secrecy with which the identity of the preparation is surrounded, as well as the extravagant and highly improbable claims, should be sufficient to condemn it.—(*From The Journal A. M. A., Feb. 28, 1914.*)

PAPAYANS BELL *

Report of the Council on Pharmacy and Chemistry

The following report of a subcommittee was submitted to, and adopted by, the Council and its publication directed.

W. A. PUCKNER, Secretary.

Papayans, (Bell) made by Bell & Co., Orangeburg, N. Y., is said to consist of the "digestive principle obtained by our

* See also Bell-Ans (Papayans Bell), p. 282.

own exclusive process from the fruit of *Carica papaya*, combined with willow charcoal, chemically pure sodium bicarbonate and aromatics." The following statement appears on the package: "For the treatment of dyspepsia, flatulence, nausea, vertigo, hyperacidity, palpitation and other symptoms of indigestion and the vomiting of pregnancy. Peritonitis, cholera morbus, alcoholism and seasickness." "Digests every variety of food, removes every symptom of indigestion, restores the entire digestive tract to a normal condition." The dosage is recommended as follows: "From one to three tablets before meals, or two hours after eating. In severe cases, three tablets dissolved in hot water and repeated as necessary."

A circular which accompanies the package details the therapeutic virtues of the preparation and contains what purports to be extracts from medical journals, in which Papayans is recommended.

Examination of specimens purchased in the open market showed them to contain the following ingredients: Charcoal, sodium bicarbonate, ginger, saccharin and oil of gaultheria. As the product is said to contain papain, the presence of enzymes was tested for, with the result that it was found to possess neither proteolytic nor amylolytic properties. The results of our examination are in accord with the results obtained by a member of the Council, who examined the product independently, and who writes:

"We have made some extended tests with Papayans Bell, and find that the tablets consist essentially of sodium bicarbonate and charcoal, with a little flavoring matter. We find no digesting power for starch or egg albumin. At any rate, no appreciable change follows in the albumin in three hours, and no conversion to sugar in the same time, or change of starch to a point where the iodine reaction is weakened. The product seems to be practically inert."

It is recommended that Papayans Bell be refused recognition, and that publication of this report be authorized.

COMMENT: It will be remembered that two other products of Messrs. Bell & Company have been discussed in this department: Salacetin (Bell)¹ and Sal-Codeia (Bell).² Salacetin was examined with several "synthetics" which all turned out to be mere acetanilid mixtures. Salacetin, advertised as "a combination, with heat, of Salicylic and Glacial Acetic Acids and Phenylamine" when examined "was found to be a mixture and to contain the following ingredients approximately in the proportion given: Acetanilid 43; sodium bicarbonate, 21; and ammonium carbonate, 20." Sal-Codeia (Salacetin-Codein) therefore, would be the same with codein added.

1. See p. 356.

2. See p. 357.

Papayans (Bell) seems to be consistently fulfilling the life-history of the average nostrum. Made of well-known drugs and invested by its manufacturers—or exploiters—with virtues absurdly disproportionate to the known properties of the alleged constituents of the nostrum, the preparation was introduced to the world via the medical profession. With the help of thoughtless physicians, aided by a skilful and aggressive advertising campaign and augmented by the “free sample” device, the business grew and prospered. The bottles with the name and address of the company blown in the glass and with the varied therapeutic indications for the nostrum printed both on the label and on the circular in which the bottle is wrapped, have carried the manufacturer’s message to the drug-taking public.

Apropos of this point, the recent “literature” contains what purports to be endorsements of the nostrum by medical journals. Thus there is quoted from the *New York Medical Journal*, Jan. 2, 1909, in part, the following recommendation: “. . . we venture to suggest to our readers who have not tried this remedy that they prescribe one *original sealed package* of Papayans (Bell) and that they carefully note the results from its use.” [Italics ours.—ED.] Having seen an “original sealed package” we believe that we can predict the “results from its use.” On any patient not mentally unbalanced, the result would be that the next dose of Papayans (Bell) he thought that he needed would be purchased from the druggist direct.

That such results are not hypothetical is evidenced by the statements of the exploiters of Papayans (Bell) that “the annual sale now exceeds four hundred million tablets.” Assuming that statement to be true, it would be necessary for every physician in the United States to prescribe over three thousand of these tablets every year—if they reached patients only through the physician! The company’s own figures indicate that the time is about ripe to take care of this vast army of self-drugging laymen and recent circular letters seem to recognize it. The physician is notified that druggists are now furnished with Papayans (Bell) “in sealed packages of thirty and one hundred tablets.” The medical man is told that the firm has “not forgotten the days when physicians’ orders made our success possible” and it says it is “sincerely grateful to the doctors who gave us orders in the days when we were struggling for recognition.” This tacit admission of the value of the physician as an unpaid agent for nostrum houses should be given thought by those physicians who prescribe such preparations.

While, so far as we know, Bell & Co. have not yet advertised in the daily press, they are not averse to furnishing the

laity with samples when requested. An Ohio physician sent us the following letter received by a young woman who had written asking for samples:

Miss X—— Y——,
Z——.

Dear Madam: As requested, we are mailing you sample of our Papayans (Bell) for Indigestion.

If a sufferer from Indigestion, we want you to give it a thorough trial as directed and note remarkable results that we believe you will get from its use.

Kindly write us if you are unable to obtain it from your local druggist, as it is stocked by nearly every good drugstore in the United States.

Yours truly,

BELL & Co.

Evidently Bell & Co., while admitting that their financial success is largely due to the kindly, though misguided, efforts of physicians, are not going to let a little thing like loyalty to the medical profession interfere with a possible sale of their tablets.

THE L. D. JOHNS COMPANY

A discussion of the methods of Bell & Company would not be complete without reference to a concern which seems to be closely connected with it: the L. D. Johns Company, whose "only product" is a sugar-coated laxative tablet. Regarding the "sugar coated" tablet, a visitor at the place of business of Bell & Company and the L. D. Johns Company wrote: "These companies apparently are not in possession of any tablet coating machines and in questioning on this point stated that some of their tablets were 'sent out to be coated.'" There is a sameness regarding the claims for the laxative tablets of the two companies that might lead one to suspect that the same individual prepared both circulars. For instance:

CASCARANS (BELL)

"Taken as directed, it permanently removes the great majority of cases of habitual constipation."

" . . . a harmless vegetable preparation."

" . . . for the removal of pimples, yellowness and greasiness of the skin . . ."

" . . . one tablet at night, one night and morning, or, in severe cases, one three time a day, gradually decreasing the frequency of the dose as improvement permits."

DR. JOHNS' TABLETS

"Taken as directed . . . permanently remove the great majority of cases of habitual constipation, torpid liver and sick headache."

"A harmless vegetable remedy."

" . . . removes pimples, blotches, sallowness and greasiness of the skin . . ."

"One at night, one night and morning, or, in severe cases, one three times a day. Gradually decrease the frequency of the dose as improvement permits."

According to a leaflet sent out with samples by the L. D. Johns Company, the company is capitalized for \$500,000, divided into 50,000 shares at \$10 each; these shares are sold

to those physicians who will agree "to prescribe the tablets at every suitable opportunity, to introduce them to other physicians" and "to promote their sale in every ethical way!" If the list of physicians' names and addresses which the company sends out as comprising the eastern stockholders is to be relied on, it would seem that many medical men are promoting their sale. In prescribing it is, of course, "necessary to specify 'Dr. Johns' Tablets No XXX (*Original bottle*).'" As the name is on the bottle, it is not unbelievable that, as the company says in its prospectus, because of "our method of advertising, a large and very profitable business is being created." That the L. D. Johns Company expects to profit by the self-drugging which this method of prescribing fosters is evident:

"Physicians not stockholders in this company suffer from the continual refilling of their prescriptions and from the recommendation of the *preparation prescribed by patients* to others. [*Italics ours.*—Ed.] Our stockholders benefit by the refilling of their prescriptions and by these recommendations."

Put baldly the case amounts to this: Physicians who prescribe "Dr. Johns' Tablets" not only are likely to foster self-drugging, but they will reap dividends therefrom. Truly a nice business to be in!

While Bell & Company and the L. D. Johns Company are said to be entirely distinct, they are to be found at the same address at Orangeburg, New York, and as will be seen, the officers of the two companies are more or less related.

BELL & CO.

President - - - JOHN L. DODGE - - -
 Secretary - - - GEO. C. TENNANT - - -
 Vice-President - - CHAS. B. SMITH - - -

L. D. JOHNS CO.

President
 Vice-President
 Secretary and Treasurer

EXPLOITING THE PROFESSION

Nostrum promoters have two simple ways of "working" the medical profession. The first—and the more profitable—is, by lavish distribution of free samples, to get physicians to prescribe the blown-in-the-glass "original package" with the inevitable result of large sales direct to the laity. By the second method, which is merely a modification of the first, the physician furnishes the capital for floating the nostrum and then takes his share of the resulting profits. There may not be quite as much money in the second method for the promoter, but then the risks are correspondingly less. If the firm fails, the stockholders are the losers; the promoter is not necessarily "out" anything. From a commercial standpoint, a combination of the two methods is, of course, ideal.—(*From The Journal A. M. A., Aug. 14, 1909.*)

PASSIFLORA AND DANIEL'S CONCENTRATED TINCTURE OF PASSIFLORA*

Report of the Council on Pharmacy and Chemistry

The Council has voted that the drug *passiflora* (passion flower) be not accepted for New and Nonofficial Remedies, and has recommended that the following article be published in *THE JOURNAL*. It is considered important to call attention, not only to the lack of reliable evidence of the therapeutic value of *passiflora*, but also to the absurdity of the claims which are made for Daniel's Concentrated Tincture of *Passiflora*, a preparation which has been already refused recognition.

W. A. PUCKNER, Secretary.

Passiflora

Although *passiflora* was introduced into medicine nearly seventy years ago, the literature concerning it is not very extensive; it is not mentioned in the standard works on pharmacology and its chemistry seems never to have been worked out. There appears, also, to be no record of experimental investigations of the drug with reference to its pharmacologic action, except an article by I. Ott,¹ who used "Daniel's Concentrated Tincture." Ott claimed that it lessened the reflex irritability of the cord and paralyzed motion by acting on the motor centers in the cord, and that it increased the rate of respiration. He also stated that because of its action on the vasomotor centers it reduced the frequency of the heart-beat and lowered arterial tension, but that these effects were only temporary.

On the clinical side the reports are not numerous and such as have been made do not appear to be based on very extensive trials nor on conditions of observation that would entitle them to more than slight consideration. S. D. Bullington² reports good results, but no cure, in one case of epilepsy, and improvement in a case of insomnia. W. J. Stapleton³ recommends it in the form of a concentrated tincture (not the one advertised so extensively), and states that he has used it with great success in insomnia, hysteria, neurasthenia, neuralgia, nervous and physical prostration, and in alcoholism. In his opinion its action is most apparent in cases of nervousness due to causes other than pain. S. Harnsberger⁴ reports two cases in which partial blindness followed the taking of potassium bromid and passion flower.

Extravagant and inconsistent claims are made for Daniel's concentrated tincture of *passiflora* in the advertising litera-

* See also Pasadyne, p. 332.

1. *Med. Bull.*, 1898, xx, 457-464.

2. *Nashville Jour. Med. and Surg.*, 1897, lxxxi, 107-109.

3. *Detroit Med. Jour.*, 1904-5, lv, 17.

4. *Virginia Med. Semimonthly*, 1898-9, iii, 392.

ture, where it is recommended for such a wide range of diseases as asthma, typhoid fever, convulsions and paralysis.

None of the evidence is sufficient to show that *passiflora* has therapeutic value; hence it is deemed inadvisable to include this drug in the list of nonofficial remedies.—(*From The Journal A. M. A., March 19, 1910.*)

LIQUID COMBINATIONS CONTAINING PEPSIN AND PANCREATIN *

Report of the Council on Pharmacy and Chemistry of the American Medical Association

The following report was submitted to the Council by a subcommittee:

To the Council on Pharmacy and Chemistry:—The U. S. Pharmacopeia, 8th revision, pages 334-5, states: "Pepsin and pancreatin in solution are incompatible with one another. If the solution be neutral or alkaline the pancreatin gradually destroys the pepsin, and if acid the pepsin destroys the pancreatin." The correctness of this statement has been amply demonstrated by the reports which have been submitted to the Council from time to time on liquid preparations claimed to contain these two ferments.

Thus an elixir was investigated which was by the manufacturers claimed to contain "the five active agents of digestion, pepsin, veg. ptyalin, pancreatin, lactic and hydrochloric acids," and to be "superior to all other remedies in dyspepsia and diseases arising from imperfect digestion," and the committee which investigated the article in question reported that "it was impossible to establish the presence of either the proteolytic or the amylolytic ferment."

Similarly, on another liquid preparation, which was said to contain "pancreatin, pepsin, lactic and muriatic acids, etc." . . . "the combined principles of digestion to aid in digesting animal and vegetable cooked food, fatty and amylaceous substances," the committee reported "this product possessed only very slight proteolytic action and failed to digest 2 per cent. of its own weight of starch."

Again, the report on still another preparation stated: "But while it was said to contain pancreatin, the U. S. P. test for the valuation of pancreatin failed to indicate this ferment."

The report on yet another elixir, claimed to be "the only true digestant, because it contains the enzymes of all the glands which are necessary for digestion," showed that this article did not contain "any appreciable enzyme activity, either amylolytic or proteolytic."

The correctness of these findings of the committee of the Council was generally acknowledged by the manufacturers when their attention was called to the matter. Thus, one

* See also Reexamination of Lactopeptine, p. 121. A reprint of articles bearing on this subject is issued under the title Digestive impossibilities.

manufacturer of digestive ferments writes: "We will ask you to hold this matter up until you hear from us further on the subject. The reason for this request is that we have been going over our liquid preparations very carefully in order to be sure that after aging they would contain the ferments that we put into them. The pancreatic ferments in alcoholic liquids seem to lose their strength."

The chemist for a large manufacturing house writes: "There are now on the market a number of preparations in which pepsin and pancreatin are combined in liquid form, and the result is that we have had numberless requisitions from our representatives that we also market such a preparation. As the result of this we have carried out a series of experiments no less than four or five times in order to determine whether pepsin, diastase, and pancreatin would retain their activity in the form of a syrup, wine or elixir. We have proved incontrovertibly that this cannot be done. While any two of these substances, or even all three of them, can be dispensed in the form of a liquid by the retail druggist and will retain their normal activity for as long a period as three to six weeks, yet if allowed to stand sufficiently long, they mutually destroy each other; so that in a combination of pancreatin and pepsin the pancreatic enzyme is lost and the pepsin greatly injured, and where diastase is present, both diastase and pepsin (or diastase and pancreatin) mutually destroy each other."

Since it has been demonstrated that pepsin and pancreatin cannot exist in one and the same solution for any reasonable length of time, it becomes apparent that liquid preparations said to contain these two ferments are sold under impossible claims. It is therefore recommended:

1. THAT THE COUNCIL ON PHARMACY AND CHEMISTRY REFUSE TO APPROVE LIQUID PREPARATIONS THAT ARE CLAIMED TO CONTAIN BOTH PEPSIN AND PANCREATIN.

2. THAT THE MEDICAL PROFESSION THROUGH THE JOURNAL OF THE AMERICAN MEDICAL ASSOCIATION BE ADVISED OF THE FALLACY OF EMPLOYING SUCH COMBINATIONS.

3. THAT THE ATTENTION OF MANUFACTURERS BE CALLED TO THE WORTHLESSNESS OF SUCH INCOMPATIBLE LIQUID PREPARATIONS OF PEPSIN AND PANCREATIN, AND THAT THEY BE URGED TO CEASE OFFERING SUCH PRODUCTS TO THE PROFESSION.

4. THAT, SINCE THE NATIONAL FORMULARY HAS RECOGNIZED A PREPARATION OF THIS KIND UNDER THE TITLE "ELIXIR DIGESTIVUM COMPOSITUM," THE AMERICAN PHARMACEUTICAL ASSOCIATION BE REQUESTED TO INSTRUCT ITS COMMITTEE ON THE NATIONAL FORMULARY TO OMIT THIS PREPARATION FROM THE NEXT EDITION.

The recommendations of the subcommittee were adopted by the Council and publication of the report directed.—
(*From The Journal A. M. A., Feb. 2, 1907.*)

W. A. PUCKNER, Secretary.

PEPTO-MANGAN (GUDE)

Report of the Council on Pharmacy and Chemistry

The following report was adopted by the Council and its publication authorized. W. A. PUCKNER, Secretary.

About ten years ago the M. J. Breitenbach Company circulated what pretended to be an abstract of the report of a government commission for the investigation of the anemia then prevalent in Porto Rico. The company asserted that "this report alone would suffice to establish Pepto-Mangan at once as the foremost hematinic known." Examination of the official report of the commission¹ revealed the fact that the administration of iron in hookworm anemia was considered of secondary importance, and that of the various preparations of iron, Bland's pill was found to be more efficient than Pepto-Mangan (Gude). A protest² was made at this time by the commission against the unwarranted use of its report by the Breitenbach Company.

Later the Breitenbach Company sent out a report pretending to prove that at the Infants Hospital, Randall's Island, New York City, Pepto-Mangan (Gude) had been found a most superior preparation in the treatment of infantile anemia. Inspection of the hospital records and daily charts of the cases disclosed³ a remarkable disparity between the claims of the Pepto-Mangan pamphlet and the real results of treatment. And so here, also, as well as in the Porto Rico commission's report the trials, selected by the Breitenbach Company prove the limitations and non-superiority of Pepto-Mangan.

The preceding false reports, though no longer circulated, have never been definitely withdrawn and while it is now generally conceded that the good results in anemia are obtained by the administration of the various simple inorganic iron preparations the Breitenbach Company still attempts to convey the impression that Pepto-Mangan (Gude) is of most superior efficacy. Thus the present Pepto-Mangan circular attempts to discredit by obsolete and absurd or untrue statements the various preparations of iron which are in general use and to carry the impression that only iron and manganese, in the particular form and proportion in which they are contained in Pepto-Mangan—namely, 3 parts Fe to 1 part Mn—are useful for the treatment of anemia, chlorosis, etc. Thus contrary to general conceptions, the impression is given that the now generally accepted course of chlorosis is due to

1. THE JOURNAL, Sept. 23, 1905, p. 934.

2. THE JOURNAL, Oct. 7, 1905, p. 1099.

3. THE JOURNAL, April 6, 1907, p. 1197.

the three varieties of insufficiency of certain blood elements: (1) insufficiency of manganese, (2) insufficiency of iron, (3) insufficiency of iron and manganese; and that the administration of iron often fails because manganese is not supplied to the system at the same time and in sufficient amounts. The following statement is made:

"Doctor:

"If you have a case of ANAEMIA, CHLOROSIS, or AMENORRHOEA, that shows no visible sign of improvement, and you have exhausted the entire list of Nauseating Iron preparations with little or no effect, it is because the blood is deficient in that *essential oxidizing constituent*, MANGANESE, in a soluble, readily assimilable form, the best being in combination with iron."

Another extravagant claim:

"Usually after taking it for a week its restorative influence on the functions of the stomach is felt; appetite reappears, and the general health is improved by the increase in bodily warmth, an effect directly due to manganese."

The following statement implies that Pepto-Mangan is absorbed unchanged, for which there is no justification:

"As the ferruginous and manganic ingredients of Pepto-Mangan (Gude) exist in the form of organic peptonates, they have already undergone the changes necessary to insure prompt absorption and appropriation by the circulating fluid."

The following declaration implies that it repairs the individual defective blood-cells which is, of course, also ridiculous:

"That Pepto-Mangan (Gude) quickly and efficiently builds up defective red blood cells, and generates, or at least potently encourages the formation of new ones, and materially increases their richness in hemoglobin, has been abundantly demonstrated. . . ."

The M. J. Breitenbach Company is still trying to mislead physicians; it also aims to make use of them in its direct appeal to the physicians' patients. For instance, the name "Pepto-Mangan (Gude)" blown in the bottle, the advertising circular suggesting Pepto-Mangan as the treatment for anemia, etc., and the recommendation to physicians that it be prescribed in "original bottles" all tend to encourage the use of Pepto-Mangan by the public with the likelihood that it will be depended on where good food and fresh air are of prime importance. The attempt to exploit it directly to the public is further attested by the advertisements of department-store drug departments.

It is evident from the foregoing that Pepto-Mangan (Gude) is in conflict with Rules 4 and 6 and therefore not eligible for admission to New and Nonofficial Remedies.—(*From Reports Council Pharm. and Chem., 1914, p. 121.*)

LIQUID PETROLATUM OR "RUSSIAN MINERAL OIL"*

Report of the Council on Pharmacy and Chemistry

The following report was submitted to the Council by a referee and its publication authorized by the Council.

W. A. PUCKNER, Secretary.

Petroleum has been in use as a medicine from time immemorial. It was known to Herodotus 400 years before Christ and is mentioned by Plutarch, Dioscorides, Pliny and other early writers. It was extensively used by the Arabians and evidently played an important part in the practice of medicine in India, being known to the Bengalese as Muthe Katel. The raw product was the substance used in earlier times and differed much in character and composition, as obtained from different sources.

As an internal remedy it was early employed in chronic pulmonary affections, in obstinate skin diseases, in rheumatism, and for the expelling of tapeworms. It was extensively used for these several purposes in France under the name of "Oleum Gabianum" and in North America as "Seneka oil."

The internal use of the refined product may be traced to a patent granted to Robert A. Chesebrough of New York, in June, 1872, for the manufacture of a "new and useful product from petroleum, named vaseline." This name was originally applied only to a semisolid preparation, but later a liquid product known as liquid vaseline was marketed and for a time exploited as a cure for coughs, colds, consumption and a number of other diseases and conditions.

The liquid petrolatum has since become known under a variety of names, proprietary and otherwise, in addition to being used as a substitute or an adulterant for other, more costly, fats and oils. Some of the names applied to the product are:

Adepsine oil	Neutralol
Amilee	Olo
Atoleine	Paraffin Oil
Atolin	Paroline
Blandine	Petalol
Crysmalin	Petro
Decline	Petrolax
Glyco	Petrolia
Glycoline	Petronol
Glymol	Petrosio
Heavy petroleum oil	Rock Oil
Liquid Albolene	Russian liquid petrolatum
Liquid Cosmoline	Russian mineral oil
Liquid Fossiline	Russian paraffin oil
Liquid Geoline	Russol
Liquid Paraffin	Saxol
Liquid Petrolatum	Terraline
Liquid Saxoline	Terralbolia
Liquid Vaseline	Uoline
Mineral Glycerin	Water-white mineral oil
Mineral Oil	White paraffin oil.

* See also following reports on Clinical Experience with Liquid Paraffin (Liquid Petrolatum) and Angier's Emulsion.

A preparation similar to that official in the Pharmacopeia of the United States as liquid petrolatum has been included in many, if not all, of the foreign pharmacopeias, the official titles under which this preparation is recognized being as follows:

Petrolatum Liquidum, U. S. Pharmacopeia; Paraffinum Liquidum, pharmacopeias of Great Britain, Germany, the Netherlands, Japan, Belgium, Austria, Denmark, Switzerland, Sweden, Servia, Italy, Hungary and Russia; Oleum Paraffinae, Spanish Pharmacopeia; Vaselinum Liquidum, French Pharmacopeia, and Oleum Vaselini (as a synonym) pharmacopeias of Denmark and Russia.

The requirements of the several pharmacopeias differ somewhat and the specific gravity as given is as follows:

U. S. P. VIII, 1905.....	0.870	to	0.940	at 25°
Ph. Brit. IV, 1895.....	0.885	to	0.890	at 15.5°
B. P. C. II, 1911, usually.....	0.875	or	lower	at 15°
Ph. Germ. V, 1910, at least.....	0.885			at 15°
Ph. Ross. VI, 1910.....	0.880	to	0.885	at 15°
Ph. Hung. III, 1909.....	0.88	to	0.89	at 15°
Ph. Ital. III, 1909.....	0.875	to	0.890	at 15°
Ph. Fr. V, 1908, about.....	0.875			at 15°
Ph. Serb. II, 1908, about.....	0.880			at 15°
Ph. Svec. IX, 1908.....	0.88	to	0.90	at 15°
Ph. Helv. IV, 1907.....	0.880	to	0.885	at 15°
Ph. Dan. VII, 1907, at least.....	0.880			at 15°
Ph. Austr. VIII, 1906, at least.....	0.880			at 15°
Ph. Belg. III, 1906, not below.....	0.880			at 15°
Ph. Japon. III, 1906.....	0.875	to	0.945	at 15°
Ph. Ndl. IV, 1905, not below.....	0.860			at 15°
Ph. Hisp. VII, 1905.....	0.840			at 15°

For pharmaceutical purposes, liquid petrolatum may be divided into two grades, the lighter or more limpid oil, used extensively as a vehicle for oil sprays, and the heavier, more viscid oil generally recognized in European pharmacopeias and used as an ingredient of ointments and more recently as a remedy in the treatment of intestinal stasis.

Under petrolatum liquidum the U. S. P. recognizes a mixture of hydrocarbons, chiefly of the methane series, which occurs as a colorless or very slightly yellowish, oily, transparent liquid without odor or taste and having a specific gravity of about 0.870 to 0.940 at 25 C. For the U. S. P. IX, it is proposed to change this requirement somewhat so as to have it apply to a transparent liquid free from fluorescence, without odor or taste and having a specific gravity of from 0.845 to 0.940 at 25 C.

Such a requirement would include all of the available paraffin oils irrespective of origin. The now commonly available commercial liquid petrolatum, used for pharmaceutical purposes, is practically colorless and all of the better grades are free from odor or taste. The specific gravity varies from 0.855 to 0.895. The lighter oils, having a specific gravity of from 0.860 to 0.870, are usually preferred in the making of oil sprays or solutions of substances to be used as local applications. The product having a specific gravity

above 0.875 evidently contains a considerable amount of dissolved solid paraffin which separates out at temperatures at or below 0 C., but readily dissolves again at temperatures above 10 C.

There is considerable difference in the chemical composition of the paraffin oils obtained from various sources. The American oil consists largely of hydrocarbons of the methane series, while the Russian oil contains naphthenes or hydrocarbons of the benzene series, having the empirical composition of ethylene, (C_nH_{2n}) which may be considered as hydrogenated aromatic hydrocarbons, though they behave with reagents very much in the same way as do the hydrocarbons of the methane series.

Mineral oils with a naphthene base are best suited for making white petrolatum, and at the present time the production of the colorless water-white liquid petrolatum appears to be confined largely or almost exclusively to the crude product of the Baku district of Russia, though it is asserted that it is now also made from the Hanover (Germany) crude oil and that some is being produced by "cracking" the white solid paraffin.

It is also said that the American oil can be made water white but that it is not being so produced at present for economic reasons; the yellowish oil, free from fluorescence, having a very wide sale, both as a lubricant and as a substitute for lard oil and other of the more costly lubricating oils.

From a pharmaceutical point of view it would appear important to note the physical characteristics of the oil and to insist on absence of color, absence of odor and taste, absence of acid and of alkali and a specific gravity in harmony with the purposes for which the oil is to be used.

During the past year or two liquid petrolatum has attracted considerable attention as a remedy in the treatment of intestinal stasis or chronic constipation, the practice of using it having been developed largely through its recommendation by Sir W. Arbuthnot Lane and his associates. This use of liquid petrolatum and of petrolatum products generally is by no means novel. N. A. Randolph¹ of Philadelphia was among the first to suggest its use for this purpose in an article published in 1885. Randolph also appears to have been the first to experiment with petrolatum and to determine its non-absorbability from the intestinal tract. In an article² in 1884 he concludes that "pure petrolatum while entirely unirritating to the digestive tract is valueless as a foodstuff."

The experiments recorded by Randolph were evidently prompted by the fact that vaseline and a number of imita-

1. Randolph, N. A.: *Therap. Gaz.*, ix, 732.

2. Randolph, N. A.: *Proc. Acad. Nat. Sc., Philadelphia*, 1884, p. 281.

tion products then on the market were being sold as substitutes for lard and butter, and opinions regarding the food value of petroleum products appear to have differed very materially. Following the experiments of Randolph, Robert Hutchison in 1899 made a series of experiments to demonstrate that petroleum, petrolatum, paraffin and related products were absolutely unassailable by any of the digestive fluids, despite the "large vogue that had of late years been given to various petroleum emulsions, chiefly by ingenious and unterrified advertising." He came to practically the same conclusions arrived at by Randolph fifteen years earlier and pointed out that "liquid paraffin in one sense may be regarded as an artificial intestinal mucus and might in that way have some value on certain forms of constipation."

William Duffield Robinson³ reports on the use of a perfectly refined colorless and odorless petrolatum, supposedly of American origin. He was able to show that all of the product passed unchanged through the intestinal tract and could be regained from the feces. In his conclusions he expressed the belief that the effect of the administration of these petroleum products is far more than as a simple intestinal lubricant. In over fifty selected cases in which nutrition, digestion and body-weight were impaired, and the purest oil administered in 1- or 2-dram doses each day for a period of from four to six months, there was in every instance an improvement of weight, health and feeling of well-being. The administration of refined paraffin oil gave no discomfort in any instance, even in cases in which nearly a pint was given in a few hours.

William Ewart⁴ suggests liquid paraffin as a safe agent for the local treatment of the lesions in typhoid fever. He says in part: "Mineral oil, such as petrolatum or paraffin, is neither absorbed nor dissolved; therefore, after all absorbable ingestions are taken up by the lacteals, it will still remain in the bowel. In this way pure liquid paraffin is valuable, precisely because it is inert; moreover, it might some day, perhaps, be made the vehicle for effective topical remedies."

A. D. Schmidt⁵ quotes Stubenrath as having given liquid paraffin in the treatment of chronic constipation, and he himself gave as much as 20 gm. of liquid paraffin to adults without observing any injurious effect whatever. He says, "As a result of the administration of liquid paraffin, the feces are softened considerably and are found under the microscope to contain numerous minute globules of paraffin." He was, however, unable to recover from the feces the entire quantity of paraffin administered and believes that a certain portion

3. Robinson: William Duffield: *Med. News*, 1900, lxxvii, 56.

4. Ewart, William: *Brit. Med. Jour.*, 1902, ii, 1505.

5. Schmidt, A. D.: *München. med. Wchnschr.*, 1905, lii, 1970.

of it, probably the fractions with a low boiling-point, are absorbed or possibly oxidized in the organism.

Maurice Vejux Tyrode⁶ also refers to the use of liquid petroleum in the treatment of constipation.

Sir W. Arbuthnot Lane in his recommendations of liquid petrolatum calls it an ideal remedy for stasis, but cautions against the use of the lighter oil as extensively prescribed in this country as a vehicle for sprays in nose and throat work.

Paraffin oil is not absorbed from the alimentary tract and so far as known exerts no deleterious influence. It is usually given in quantities of from 10 to 20 c.c. half an hour or an hour before meals or in larger doses, from 30 to 50 c.c., at one time on retiring. From available evidence it appears that comparatively huge doses may be administered without the production of any untoward results. According to many observers, liquid paraffin should not be given with or after meals because of the inhibiting influence that it may have on the digestion of food. It is not soluble in water or the ordinary solvents and therefore cannot be diluted. The denser oils are preferably slightly warmed or drunk with warm water so as to obviate the disagreeable slimy sensation that persists when taken cold.

Volatile oils may be used in moderate amounts to give a distinctive taste to the otherwise rather insipidly tasteless paraffin oil. Among the more desirable oils to be used for this purpose would be oil of peppermint, oil of cinnamon, oil of betula or methyl salicylate and oil of cloves. From 2 to 10 drops of any of these oils can be added to a pint of the oil. When larger doses of the oil are to be given at one time, it would, of course, be advisable to use a comparatively smaller quantity of the volatile oil as a flavor.⁷

From the foregoing it would appear that apart from the Pharmacopeia of the United States, practically all other known pharmacopeias describe a water-white mineral oil

6. Tyrode, Maurice Vejux: *Boston Med. and Surg. Jour.*, 1910, clxii, 673.

7. In addition to the articles referred to in the preceding footnotes, the following are of interest in connection with this subject:

Editorial, *Therap. Gaz.*, 1885, ix, 353.

Junker, F. A.: *Med. Record*, London, 1885, xiii, 506.

Editorial, *Med. News*, 1886, xlviii, 105.

Dunbar: *Deutsch. med. Wchnschr.*, 1896, xxii, 33.

Stubenrath, Franz Casimir: *München. med. Wchnschr.*, 1897, xlv, 639.

London Letter, *Med. News*, 1899, lxxiv, 504.

Hutchison, Robert: *Brit. Med. Jour.*, 1899, i, 724.

Schlesinger, E. G.: *Boston Med. and Surg. Jour.*, 1913, clxix, 14.

Lane, W. Arbuthnot: *Brit. Med. Jour.*, 1913, ii, 1126; *Proc. Roy. Soc. Med.*, 1913, vi, 49; *Surg. Gynec. and Obst.*, 1913, xvi, No. 6.

Jordan, Alfred C.: *Practitioner*, London, February, 1913.

Chrysospathes, J. G.: *Zentralbl. f. Chir.*, 1913, No. 45; *abstr.*, *The Journal A. M. A.*, Dec. 13, 1913, p. 2201.

under the title "Paraffinum Liquidum" or "Liquid Paraffin" as a colorless, odorless, tasteless, non-fluorescent, oily liquid, free from acids, alkalies and organic impurities. As explained before, the specific gravity of the preparation as recognized in other countries and as offered on the American market at the present time varies considerably, and there appears to be some difference of opinion as to the exact nature of the product that is preferable for use for different purposes. This matter requires further investigation.

Since the definition of liquid petrolatum in the U. S. Pharmacopeia permits the use of fluorescent products of widely varying specific gravities, it is recommended that physicians who desire the water-white non-fluorescent (Russian) mineral oil should use the term "Petrolatum Liquidum, Grave," or "Paraffinum Liquidum, B. P.," if the heavy product recommended by Lane is desired, and "Petrolatum Liquidum, Leve" if the light varieties are required. It is further recommended that under the foregoing names, manufacturers and pharmacists be requested to dispense the products, in accordance with the following descriptions:

Petrolatum Liquidum, Grave.—Heavy (Russian) Liquid Petrolatum.—Paraffinum Liquidum, B. P., liquid paraffin.—A transparent, colorless, tasteless, non-fluorescent, oily liquid, odorless when cold but giving off a faint petroleum odor on heating. This preparation should correspond to the requirements of the British Pharmacopeia for liquid paraffin and have a specific gravity of about 0.885 to 0.890 at 15 C. It is insoluble in water or alcohol but soluble in boiling absolute alcohol and readily soluble in ether, chloroform, carbon disulphid, petroleum benzin, benzene and fixed and volatile oils. It serves as a solvent for volatile oils and related substances like camphor, menthol and thymol.

This is the type of preparation used by Sir W. Arbuthnot Lane, and his associates for internal administration. It is also used as a basis for ointments and salves and as a local application to wounds, ulcers and in certain forms of skin diseases in which a simple protective is desired.

Petrolatum Liquidum, Leve.—Light (Russian) Liquid Petrolatum.—A transparent, colorless, tasteless, non-fluorescent, oily liquid, odorless when cold, but giving off a faint petroleum odor on heating. In other respects this preparation should correspond to the pharmacopeial tests for liquid petrolatum and have a specific gravity of about 0.860 to 0.875 at 15 C. Like the heavy variety of liquid petrolatum, it is insoluble in water and alcohol, but soluble in boiling absolute alcohol and rapidly soluble in ether, chloroform, carbon disulphid, petroleum benzin, benzene and fixed and volatile oils. It serves as a solvent for volatile oils and related substances like camphor, menthol and thymol.

This is a type of preparation extensively used as a vehicle for the oily sprays in nose and throat work. It is also being used as one of the constituents in the now popular paraffin oil cold cream and has been used to some extent for internal administration in the treatment of chronic stasis. Being more limpid than the preparation preferred by Lane, it is more readily taken, though greater care must be exercised in securing a sample devoid of the lighter fractions of petroleum distillates.—(*From The Journal A. M. A., May 30, 1914.*)

CLINICAL EXPERIENCE WITH LIQUID PARAFFIN (LIQUID PETROLATUM)*

A Comparative Investigation Made Under the Auspices of
the Council on Pharmacy and Chemistry†
W. A. Bastedo, M.D., New York

During the past three or four years, "mineral oil" has come into extensive use in the treatment of constipation. Preparations of the Russian and the American oil, both heavy and light, have appeared on the market, but there have been no satisfactory data on which to base a selection of oil for use. Therefore, in order to obtain reliable clinical information concerning the relative efficiency of the different oils, the Therapeutic Research Committee of the Council on Pharmacy and Chemistry of the American Medical Association submitted samples of the oils to various clinicians for testing. The following is a synopsis of the investigation, which I have prepared at the request of the committee.

The collaborators were advised that specimens of the best obtainable light Russian liquid petrolatum, heavy Russian liquid petrolatum and an American brand of liquid petrolatum would be sent out, but that, to avoid bias, these specimens would be distinguished only by numbers or letters. The oils sent out were (1) a light "Russian" liquid petrolatum having a specific gravity of 0.860 at 20 C., (2) a heavy "Russian" liquid petrolatum having a specific gravity of 0.885 at 20 C., and (3) an "American" liquid petrolatum having a specific gravity of 0.857 at 20 C. and being markedly fluorescent. The collaborators were advised that the reports should furnish information as to size and frequency of dose, the agreeableness to the taste, the effect on the stomach, the number and character of the stools, the

* See also preceding report on Liquid Petrolatum or "Russian Mineral Oil" and following report on Angier's Emulsion.

† This investigation was made under the auspices of the Committee on Therapeutic Research of the Council on Pharmacy and Chemistry of the American Medical Association. At the request of the committee, Dr. W. A. Bastedo has prepared this critical review of the reports made by those who collaborated in this investigation.

degree of admixture of the oil with the other ingredients of the stool, the degree of leakage of oil about the anus, and the need of other cathartic measures.

Reports have been received from Drs. L. F. Barker, W. A. Bastedo, J. B. Champion, Henry A. Christian with C. K. Drinker and F. A. Hatch, Alfred Stengel and R. L. Wilbur.

CONCLUSIONS

The conclusions to be drawn from the clinical reports are:

Dosage.—Half an ounce to 3 ounces a day. In the same patient, the same amount of each of the oils was required.

Frequency of Dose.—The same amount daily seemed as efficient when given in one dose as when given in divided doses two or three times a day.

Agreeableness to the Taste.—There is a difference of opinion in this regard. Two reports favored the heavy Russian oil. One report favored the light Russian petrolatum. But the taste of any of the samples was so slight as to be a negligible quantity after the patient had taken the remedy for two or three days.

Stomach Effects.—In about 20 per cent. of the patients, the oil produced a slight degree of nausea or tended to repeat. This is most likely in patients who have gastric stagnation with retarded emptying of the stomach. All the oils acted the same in this regard. Vomiting was reported in two cases.

Number of Stools.—To produce one or two copious stools a day the dose required varied considerably, but there was no difference noted on account of difference in the specific gravity or character of the oils.

Character of Stools.—The stools were soft, usually formed, sometimes mushy, obviously greasy. They had a peculiar odor described as sour. Their consistency varied with the dose, but was the same for the different kinds of oil.

Admixture of Oil with Other Ingredients of Stool.—Generally well mixed, but from time to time a patient would have a stool of free oil. This occurred with all varieties of oil. (It necessitated reduction of the dose, and if then the bowels were not active enough, the administration in addition of cascara, aloin, etc.)

Leakage About the Anus.—A disagreeable feature complained of by many is that when they take enough of the oil to move the bowels, there is sufficient leakage from the anus to keep the neighboring skin continually in a greasy condition, and sometimes to stain the clothes. That there is any difference in this regard between the oils has not been determined.

In the reports, one clinician noted no differences that were not negligible. Another was slightly in favor of No. 2

(heavy Russian) as regards taste. A third reporter did not make comparative tests. A fourth is slightly in favor of "B" (heavy Russian) as regards taste and general suitability. All of the findings of this investigation are based on hospital cases. A fifth reporter favored No. 1 (light Russian petrolatum). He considered it the most prompt in its effect, the most uniform in results, and the most prone to give a satisfactory admixture of the oil with the other materials. The difference, however, from the other oils was not marked. Another reporter noted no special differences.

SUMMARY

The results of this clinical investigation appear to warrant the conclusion that so far as therapeutic results are concerned the differences in the action of the three varieties of liquid petrolatum, namely, light Russian liquid petrolatum, heavy Russian liquid petrolatum and American liquid petrolatum, are too slight to be of importance. Hence the choice between the lighter and the heavier oils, and between the Russian and the American is an open one, to be determined not by therapeutic differences, but by palatability, dependent on the degree to which the refinement of the oil is carried out. The U. S. Pharmacopeia, the revision of which is now nearing completion, no doubt will furnish standards which will insure a suitable product. From the findings of the foregoing report it would appear that a satisfactory standard might permit the use of either Russian or American oil, if suitably refined so as to be as nearly as possible devoid of odor and taste.—(*From The Journal A. M. A., March 6, 1915.*)

ANGIER'S EMULSION *

Report of the Council on Pharmacy and Chemistry

Angier's Emulsion is essentially a petroleum product. When it was first put on the market commercial interests had been fostering the idea that petroleum products had food-value, and the manufacturers of Angier's Emulsion, making use of the idea, advertised it as a "food-medicine" and an "ideal substitute for cod-liver oil." The impression thus created has been kept alive through persistent advertising in spite of scientific proof to the contrary. To-day many who know that petroleum products have no food-value are still likely unconsciously to class Angier's Emulsion among nutrients. Although the manufacturers now advertise this product as "purely mechanical in its action," they yet show a disposition to profit by the old misapprehension, since, so

* See also preceding reports on Liquid Petrolatum or "Russian Mineral Oil" and Clinical Experience with Liquid Paraffin (Liquid Petrolatum).

far from expressly disavowing the old claims as erroneous, they mingle with the new ones vague claims of "tonic and reconstructive merits" apparently designed to sustain, in those who do not take time to consider the evidence carefully, the old faith in the claimed nutritive qualities of the preparation.

While the Council judges a preparation by the claims made for it at present, and not by any past misstatements when these have been thoroughly corrected, the past advertising of Angier's Emulsion so instructively illuminates the scientific worthlessness of proprietary therapeutic claims in general, and the whole course of its history is so typical that the referee has thought it well to review the subject briefly. The Council has authorized the publication of the following report.

W. A. PUCKNER, Secretary.

Angier's Petroleum Emulsion was brought out in 1881—that is to say, before the food-value of petroleum products had been experimentally disproved. Its advertising history well illustrates the weed-like vitality of a financially profitable therapeutic fallacy. The shifting claims made for this preparation are such good examples of the generally unreliable therapeutic pretensions of proprietary medicines—whether of the "patent medicine" or of the "ethical proprietary" type—that it has been deemed advisable to present a brief review of the conflicting claims made for it at various times.

A PETROLEUM PRODUCT

Angier's Emulsion is described by the manufacturers as containing, in addition to "our specially purified Petroleum," "the combined hypophosphites of lime and soda, chemically pure glycerine, and the necessary emulsifying agents." So far as the hypophosphites are concerned, it is probably unnecessary to remark that the latest researches bring to light no evidence that they influence metabolism in the slightest degree. The Angier Chemical Company apparently accepts this view, for in its advertising stress is laid exclusively on the merits of the emulsion as a petroleum product. It is therefore proper to consider it from this point of view.

The history of the internal use of liquid petrolatum was sketched in a recent Council report.¹ As mentioned at that time, a number of petroleum products were put on the market some thirty years ago as substitutes for lard and butter. Contemporary opinions regarding the food value of such products differed widely.

There never was any scientific evidence to support the view that petroleum and its derivatives are assimilated.

1. Liquid Petrolatum or "Russian Mineral Oil," p. 161.

lable by the animal organism. In fact, so far as we can learn, there was no scientific investigation of the problem until Randolph's experiments in 1884. These were probably the first to demonstrate the non-absorbability of petroleum and its valuelessness as a foodstuff.

In 1899 Robert Hutchison conclusively demonstrated by experiment that petrolatum, paraffin and related products were absolutely unassailable by any of the digestive fluids, and therefore could not possibly have any food value. Various investigators later confirmed these findings.

FIRST ADVERTISED AS A "FOOD-MEDICINE"

Let us now take up the advertising history of this nostrum. In 1895 it was sold under these claims:

" . . . a 'Food-Medicine' that is far more than a substitute for cod-liver oil";

" . . . a Food-Medicine that is readily assimilated and helps to digest other foods."

In 1897 it was an:

"Ideal Substitute for Cod Liver Oil."

In 1899 it:

" . . . conserves heat and energy by furnishing more material for oxidation."

In 1902 it:

" . . . supplants tissue waste by tissue reconstruction."

The promoters of Angier's Emulsion thus for some time ignored the status definitely assigned to petroleum products by the experiments of Randolph, Hutchison and others. This was only natural. If petrolatum was absolutely inert in the alimentary canal (and this was now proved beyond controversy) then an emulsion prepared from it most certainly was not a "food-medicine," could not "supplant tissue waste," or "conserve heat and energy." All the credit which previous "unterrified and ingenious advertising" (to quote Hutchison) had accumulated for Angier's Emulsion was bound up with the view that petroleum products were foodstuffs.

LATER ADVERTISED AS NON-ABSORBABLE

The non-absorbability of liquid petrolatum, however, suggested to Robinson, Schmidt, Lane and others, a new therapeutic use for it in the treatment of chronic constipation. This method has rapidly gained popularity and it is not surprising, therefore, that the promoters of Angier's Emulsion changed their claims accordingly, and now began to base their advertising chiefly on the proved properties of petrolatum. In 1910 the emulsion was advertised for the treatment of chronic diarrhea on these grounds:

" . . . given by the mouth, it passes to the lowermost portions of the intestines without changing its identity; hence it exerts anti-septic, soothing and demulcent properties upon every inch of the intestinal tract, from the duodenum to the rectum."

The old claims, however, were not discarded altogether, for in 1911 the preparation was recommended for children's diseases as:

" . . . an aid to appetite and digestion and a splendid tonic and builder."

Before long the attempt was made to weave together the claims based on opposed and mutually incompatible properties. In 1912 we find Angier's Emulsion recommended because it:

" . . . corrects digestive disturbance and promotes normal action of the bowels. At the same time it has a most invigorating tonic influence upon the general health."

In 1914 medical men are advised through the advertising pages of the *British Medical Journal* of the:

" . . . tonic and reconstructive merits of Angier's Emulsion."

A pamphlet on "Constipation," which is "Presented to Physicians with Compliments of the Angier Chemical Company" (copyright, 1913; still distributed in 1914) informs physicians that Angier's Emulsion is:

" . . . purely mechanical in its action."

Notwithstanding this, we are told later on in the same pamphlet that it:

" . . . facilitates, hastens and assists the processes of digestion and assimilation." . . . "is a most efficacious remedy in Pulmonary Tuberculosis because it not only maintains normal nutrition, but also exerts a well-defined specific palliative influence upon the cough and other symptoms of the disease."

Evidently the advertisement is written in the hope that in one paragraph a claim based on the proved properties of petroleum products may be substantiated, while in another a totally different and inconsistent claim may be glibly insinuated in vague phrases designed to lull thought and thus perform the remarkable feat of securing credence for two contradictory statements.

UNWARRANTED AND MISLEADING CLAIMS

Further evidence that Angier's Emulsion is at present exploited both to the medical profession and to the public under claims that are unwarranted and misleading, if not as palpably untrue as the claims made in the past, is found on the wrapper of a trade package purchased in 1914 and in the circular accompanying it. Note the following:

"Indicated in Diseases of the Throat and Lungs and of the Digestive Apparatus. Useful in General Debility and Wasting Diseases, Especially

when due to Faulty Nutrition. The antiseptic properties of the Emulsion particularly adapt it to the treatment of diseases of septic or bacterial origin."

"Angier's Petroleum Emulsion is indicated in affections of the throat, lungs and intestinal tract—both subacute and chronic. In diseases of the digestive apparatus due to catarrhal, ulcerative or tuberculous conditions, its peculiar soothing, healing and aseptic properties make its use especially beneficial. Wasting diseases, particularly when due to faulty nutrition, are greatly benefited by its use, one of the most noticeable effects being a prompt and decided increase in weight."

It is, of course, unnecessary to point out that, since petroleum is non-absorbable, Angier's Emulsion contains no ingredient capable of affecting the respiratory mucous membrane except by local application, for which, indeed, this preparation is evidently not intended.

COMPOSITION AND FORMULAS

According to a circular which was contained in a trade package recently purchased

"Each fluidounce of Angier's Petroleum Emulsion with hypophosphites contains: 33⅓ per cent. of our specially purified Petroleum; 9 grains of the combined hypophosphites of lime and soda, chemically pure glycerin and the necessary emulsifying agents."

As regards the nature of the product referred to under the indefinite term "petroleum" the circular states that Angier's Emulsion is:

"... prepared with refined petroleum specially purified for the purpose. By a process peculiarly our own the crude petroleum, obtained from special wells is so purified that all taste and odor and all objectionable and irritating properties are removed, while the full medicinal value of the oil is retained. . . ."

The composition assigned to Angier's Emulsion in an advertising pamphlet "The Petroleum Idea," issued in 1907 differs in that it is said to contain "specially purified crude petroleum" and that each fluidounce is said to contain 2.84 grains of benzoate of sodium. While these quotations convey the impression that certain medicinal constituents of the "specially purified" product obtained from "special wells" are "retained," a pamphlet recommending the use of Angier's Emulsion for the treatment of constipation assures us that it produces the "mechanical effects of the purest petroleum" and that it is "purely mechanical in its action."²

2. As is the custom in the exploitation of proprietary medicines, the preparation which is the firm's main output—the leader—is made to do duty as an advertising medium for auxiliary preparations. Thus the Angier Emulsion booklet advises the use of Angier's Throat Tablets. These tablets are alleged to be composed essentially of elm bark and petroleum, are claimed to "promote appetite and aid digestion," and it is stated that "their healing action on all mucous surfaces makes them decidedly beneficial, not only to the pulmonary tract but on the digestive areas as well." Angier's Throat Tablets were examined in the Association's Laboratory to determine the amount and kind of petroleum present in the tablets. Extraction of the tablets with ether yielded a petroleum product which resembled in every way the product obtained from the emulsion. Slightly less than 12 per cent. of the tablet was composed of the petroleum oil. The part insoluble in ether appeared to consist essentially of elm bark, with gum and sugar.

LABORATORY REPORT

The statements regarding the identity of the "petroleum" are so unsatisfactory and contradictory (in one place "refined petroleum specially purified for the purpose," in another "specially purified crude petroleum"—in one place "medicinal" and in another "purely mechanical in its action") that the help of the Chemical Laboratory of the Association was invoked to establish the character of the petroleum product and to determine the presence or absence of sodium benzoate, at one time declared by the manufacturers to be present but later omitted from the formula. The Association's chemists reported:

"From a specimen of Angier's Emulsion recently purchased there was separated by the customary methods of analysis, a yellow fluorescent, unsaponifiable, semi-solid residue which has all the properties of ordinary yellow petrolatum of a consistence somewhat softer than the product described in the Pharmacopeia. It was much more dense than the colorless, non-fluorescent liquid petrolatum now in vogue as a laxative. The preparation contained benzoate, both in the form of free benzoic acid and also in the form of a water-soluble salt probably sodium benzoate."

The petroleum product contained in the emulsion was thus shown to be intermediate between the ordinary (solid) and the liquid petrolatum. It also appears that a benzoate is still present, though no longer mentioned in the formula.—
(*From The Journal A. M. A., Sept. 12, 1914.*)

PHECOLATES, PHECOLAX, PHECOZYMES AND PHECOTONES

Report of the Council on Pharmacy and Chemistry

Phecolates, Phecolax, Phecozymes and Phecotones were submitted by F. Waldo Whitney, New York, with "literature" indicating that they are designed to form parts of a system of treatment founded on the theory of autotoxemia, which they are supposed to prevent by their action on the functions of the intestinal canal. The different preparations consist in the main of mixtures of well-known remedies. The basic preparation is Phecolates, which contains bile salts in combination with phenyl salicylates and benzo-naphthol in about one-eighth the regular doses and hence not likely to be of any real service. Since the proportions of these ingredients ought to be regulated by the physician according to the needs of the individual patient, they should not be combined in fixed proportions. The name is not so framed as to indicate the principal ingredients.

Phecolax contains, in addition to the ingredients of Phecolates, phenolphthalein and cascarn, of each one-half grain.

Phecozyme is made more complex than Phecolax by the introduction of additional phenyl salicylate and of pancreatin.

Phecotone contains ten ingredients.

Extravagant claims such as the following are made:

"Our Health is governed by our bowels; Our bowels are governed by our nerves; Our nerves are governed by our digestion; our digestion is governed by Phecolates."

The Council voted to refuse recognition to Phecolates, Phecolax, Phecozymes and Phecotones as unscientific articles with objectionable names.—(*From The Journal A. M. A., Nov. 21, 1914.*)

PHENOL SODIQUE

Report of Examination by Council on Pharmacy and Chemistry and Comments

An examination of this article by a subcommittee of the Council on Pharmacy and Chemistry revealed unscrupulous claims which are a positive menace to public health. In view of this the Council has directed the publication of the following comments.

W. A. PUCKNER, Secretary.

COMMENTS

Phenol Sodique was not submitted to the Council by the manufacturers, but was taken up because it is advertised to both physicians and the public. Some advertisements state: "Phenol Sodique was the standard antiseptic thirty years ago. It's the same today." If this were true, it would be high time to call a halt; for the unscrupulous claims made for this nostrum, and the effrontery with which they are pushed, are only rivaled by those of the most shameless "patent medicines."

The firm of Hance Bros. & White poses as a reputable pharmaceutical manufacturing house, but how it can reconcile this position with their method of exploiting this product passes all understanding. In the original package of Phenol Sodique (the latest was purchased on June 20, 1907), there are little booklets and a folder describing the marvelous properties of the nostrum. The booklets do not refer to Phenol Sodique, but they are very instructive. They are entitled: "Dyspepsia," "Worm News," and "Catarrh," advertising "Dyspepsia Stop"—some form of dyspepsia tablets, a remedy for round worms, and "Catarrh Stop," apparently some mild antiseptic tablets. These booklets are addressed frankly to the laity, although recourse to a physician is, generously, advised if the patient does not respond to treat-

ment! The folly of prescribing "original packages" which contain popular literature has been so often emphasized that further comment seems superfluous. The following from "Catarrh," however, throws an interesting sidelight on the scientific status of Hance Bros. & White:

"Catarrh is due to a minute insect in the inner lining membrane of the nose. This insect multiplies rapidly, and, unless checked, and destroyed, will produce the worst results."

To return, however, to Phenol Sodique: The folder is also evidently intended for the lay public rather than for physicians; at least, if we are to credit Hance Bros. & White with any intelligence whatsoever. It is headed: "Montyon Prize of Encouragement, Awarded by the Institute of France, 1861." This is rather ancient, but what follows indicates that a little restraint would have been better than encouragement. The circular is a compact treatise on self-medication—apparently all that is necessary to retain or regain health is the use of Phenol Sodique, externally and internally. The following conditions are among those specifically named as amenable to this remedy. Smallpox, measles, scarlatina, erysipelas, puerperal fever, typhoid fever, cholera, diarrhea, cramps, burns and scalds, bites, cuts and wounds, excoriations, chilblains, chaps, sore throat, scratches, catarrh, tetter, sunburn, swollen veins, ulcers, hemorrhages, bruises, piles, gangrene, carbuncle, itching, insect stings, ivy poison, cold in the head, bunions, inflamed eyes, eczema, ringworm, rheumatism, pains, toothache, seat worms, etc.—besides numerous diseases of animals.

No antiseptic, whatever its composition, could by any possibility accomplish anything like what is claimed for Phenol Sodique, so that the composition of the article is really of little importance. This is evidently appreciated by the manufacturers, for they have kept the composition a profound secret, except in so far as it is implied in the name. An inquiry addressed to Hance Bros. & White, under date of April 27, 1907, six months ago, has remained unanswered. The Council, therefore, directed an analysis of Phenol Sodique. This was carried out at the chemical laboratory of the American Medical Association, and a check analysis was made by an independent firm of chemists.

This shows that Phenol-Sodique contains something like 0.5 or 0.66 per cent. of phenols, dissolved in about 0.75 per cent. of sodium hydroxid. In other words, it appears to be essentially a very dilute alkaline solution of some impure coal-tar product, presumably a crude carbolic acid. The analysis could not profitably be carried further, because the amount of the antiseptic agent is so very small.

The consideration of this analysis, in connection with the claims made for Phenol-Sodique, leaves little doubt as to one reason for the secrecy concerning its composition; although no educated physician could be deceived into believing for a moment that Phenol-Sodique could fulfil the promises of its promoters, even if it were "the best antiseptic, hemostatic and disinfectant on the market," as the manufacturers say in their advertisements.

From its composition, it can only have the very moderate and ordinary antiseptic qualities of a dilute phenol or cresol solution, modified only to a very slight extent by the free alkali. According to the manufacturers, however, "Phenol-Sodique is a wonderful preparation." Just how wonderful appears from these extracts from the dissertations in the pamphlet which is enclosed in the package.

"*Catarrh, Old Colds, etc.*—Drink every morning and evening a glass of water containing ten to thirty drops of Phenol-Sodique . . ."

"*Small-Pox.*—To prevent attack take internally three or four times a day, fifteen or twenty drops of Phenol-Sodique in one tablespoonful of sugar and water. . . .

"*Measles, Scarlatina and Erysipelas.*—Same treatment as for Small-pox."

"*Typhoid Fever.*—To prevent attack take internally three or four times a day, fifteen or twenty drops of Phenol-Sodique."

"*Cholera.*—To prevent, spread sawdust or sand, wet with Phenol-Sodique, in apartments.

"The very best precaution is to drink, morning and evening, a glass of water containing from fifteen to thirty drops of Phenol-Sodique. . . .

". . . *Premonitory Diarrhea.*— . . . Drink a teaspoonful of Phenol-Sodique diluted in an ounce of water. . . ."

This is the kind of therapeutics and prophylaxis taught to the medical profession by their self-appointed instructors, the proprietors!

But this matter has a serious as well as a ludicrous side: What is the proper epithet to apply to those who, knowingly and intentionally, impress on the ignorant lay public that one can with impunity expose himself to smallpox, cholera, typhoid or scarlet fever, or measles, by taking a few drops of very dilute carbolic acid, or by sprinkling a little on sawdust? What must be the consequences to those who trust in these assurances? And what should be the lawful penalty for those whose blunted moral instincts permit them wilfully to endanger the lives of others for a little financial gain? It would be interesting to know the real opinion of the responsible members of the firm of Hance Bros. & White on these questions.

The Montyon Prize was awarded by the French Institute in 1861—forty-six years ago—how many victims a year?—*(From The Journal A. M. A., Nov. 9, 1907.)*

PHYTIN AND FORTOSSAN

Report of the Council on Pharmacy and Chemistry

Phytin, manufactured by the Society of Chemical Industry, Basel, Switzerland, and sold by A. Klipstein and Co., is an organic phosphorus compound said to be the "Acid Calcium-Magnesium Salt of Phytinic Acid (Inosit Phosphoric Acid or Anhydro-Oxymethylene-Diphosphoric Acid)" obtained from cereals and legumes.

The trade package of Phytin constitutes an indirect advertisement to the public.

The Council rejected Phytin because unwarranted and exaggerated therapeutic claims are made for this product based on the entirely undemonstrated assumptions: (1) that phosphorus is assimilated only from organic combinations (it is even implied that this must be in the form of Phytin, and that milk is incapable of supplying the phosphorus needs of infants); (2) that a long list of diseases, ranging from rickets to hysteria, are due to deranged phosphorus metabolism; (3) that all these diseases are cured or markedly benefited by Phytin.

In brief, the claims rehearse every point of the more or less discredited phosphorus propaganda, in exactly the same way as it was rehearsed successively by the exploiters of hypophosphites, lecithin, glycerophosphates, and amorphous phosphorus. It is conceded by the writers of the advertising pamphlets for Phytin that the preceding claims were erroneous; but no evidence is given to warrant the belief that the Phytin claims are less erroneous.

The misleading statements are most extreme. By the use of bold type particular stress is laid on the preposterous and vicious claim that Phytin

"radically and permanently removes sexual debility."

Fortossan is a preparation of Phytin and sugar of milk, also manufactured by the Society of Chemical Industry, Basel, Switzerland, and sold by A. Klipstein and Co. Since Fortossan is a simple preparation of Phytin the Council voted that the rejection of Phytin should also apply to Fortossan. —(*From The Journal A. M. A., Jan. 30, 1915.*)

PRUNOIDS

Report of the Council on Pharmacy and Chemistry

Prunoids are tablets put out by the Sultan Drug Company, St. Louis. They are said to be:

"Made of Phenolphthalein (one and one-half grains in each), Cascara Sagrada, De-emetinized Ipecac and Prunes."

The following report on the composition of Prunoids is submitted by the Association's Laboratory:

"From an examination of Prunoids it is concluded that the amount of cascara or extract of cascara in the preparation is very small. Also the quantity of "de-emetinized ipecac" is insignificant. The claim is made:

"The levulose of prunes, a constituent of Prunoids, is hygroscopic and thus when brought into contact with the saliva of the mouth or contents of the stomach, disintegrates and prompt medication is insured."

"Actually the amount of prunes which may be present in Prunoids is negligible. For all practical purposes, therefore, Prunoids are phenolphthalein."

According to the information included on and in the box Prunoids are

"An Ideal Laxative, Purgative, and Intestinal Tonic" . . . "particularly adapted to the treatment of constipation . . ."

They are said to act as an "intestinal tonic"—a claim which in the light of the examination is obviously unwarranted—and because of this, it is said that they:

"Will permanently remove constipation without causing after constipation."

The trade package assures the purchaser that Prunoids are:

"Recommended by Physicians Generally."

A circular sent to physicians makes the unwarranted claim that Prunoids are "especially serviceable" in ". . . Neurasthenia, Jaundice, Chlorosis, Rheumatism, Gout . . ." and that

" . . . their success in gouty diathesis and vague rheumatic symptoms tends to confirm the opinion expressed by some physicians that they have a solvent action on uric acid."

In the following the haphazard and ill-considered use of purgatives is suggested:

"For the expectant mother, or in the treatment of female diseases, for bowel elimination, no happier or *safer* selection can be made."

The Council refused recognition to Prunoids because the statement of composition is incomplete and therefore meaningless; because unwarranted therapeutic claims are made for them; because the name "Prunoids" gives the false impression that they depend on prunes for their effect; and because it is irrational and a detriment to medicine to disguise a well-known drug by means of a misleading name and to attempt to create the impression of special virtues by combining it with superfluous drugs.—(*From The Journal A. M. A., Jan. 2, 1915.*)

SAL HEPATICA

Report of the Council on Pharmacy and Chemistry

Sal Hepatica, marketed by the Bristol-Myers Co. of New York, has been refused recognition by the Council, because its composition is secret; because it is advertised indirectly

to the public for the treatment of diseases; because exaggerated and unwarranted claims are made for its therapeutic qualities; and because the name fails to indicate its chief constituents but does suggest its use in liver disorders.

The Council has authorized the publication of the report of its referee, because it is an important illustration of the ways in which physicians are being made parties to the introduction to the public of a patent medicine, whose indiscriminate use must often have resulted in harm, direct or indirect.

• W. A. PUCKNER, Secretary.

The report of the referee follows:

Sal Hepatica is a saline laxative sold by the Bristol-Myers Company of New York. No information seems to be given regarding its composition except such as is contained in the following vague and uninforming phrases:

"Effervescent saline combination, hepatic stimulant, laxative and an-eliminant of irritating toxins."

"Sal Hepatica is a saline combination containing the alterative and laxative properties similar to the natural 'Bitter Waters' of Europe with the addition of sodium phosphate."

". . . more palatable and efficient than sodium phosphate alone or other salines."

A circular around the bottle contains the following:

"We invite the physicians' careful consideration of the merits of Sal Hepatica in the treatment of Rheumatism and Gout, in Constipation and Auto-intoxication, and to its highly important property of cleansing the entire alimentary tract, thereby eliminating and preventing the absorption of irritating toxins and relieving the conditions arising from indiscretion in eating and drinking."

In the same circular, its promiscuous use is invited in these terms:

"Owing to its palatability, Sal Hepatica is particularly well adapted to the requirements of childhood or the feeble and delicate."

Further suggesting its use in the treatment of that popular, if somewhat vague ailment, "biliousness," we read:

"It is especially valuable where there is intestinal sluggishness arising from functional derangements of the liver or portal circulation. . . ."

As further suggestive of its all-around "goodness," are the claims:

"It increases the appetite and promotes digestion by stimulating the flow of gastric juice."

"In rheumatism and gout Sal Hepatica furnishes the physician with an ideal eliminant, usually affording prompt relief."

The label on the Sal Hepatica bottle suggests—both to physicians and to the public—its use in the following diseases and conditions:

"Derangements of the stomach and liver."

"Affections of the kidneys."

"Bilious attacks."

"Summer complaints, colic and alcoholic excesses."

"Headache, dizziness, heartburn and seasickness."

"Acute indigestion."

"Gastric, hepatic and renal disorders."

"Especially beneficial in rheumatism and gout."

From these quotations it is evident that Sal Hepatica is in conflict with:

Rule 1, in that its composition is not disclosed, although statements are made which are likely to give a false impression as to what it is;

Rule 4, in that the statements on the label and in the circular around the bottle advertise it to the public and thus make the physician who recommends it an advance agent for the nostrum:

Rule 6, in that exaggerated and unwarranted claims are made for its therapeutic qualities, and,

Rule 8, in that its name fails to indicate its chief constituents, but does suggest its use in liver disorders.

The absurd claims made for this preparation are such as to put it in the "patent medicine" class. Even the most credulous members of the medical profession certainly can take no stock in the claim that a preparation can be an "eliminant" of uric acid, a hepatic stimulant, a remedy for gout, rheumatism, liver disease, indigestion, etc. Why then should such a preparation be tolerated?

In its conflict with Rule 4 Sal Hepatica belongs to that class of nostrums which have been so successfully exploited by manufacturers through the unwitting efforts of thoughtless and careless physicians. The Bristol-Myers Company has been most liberal in distributing free samples, evidently with the assurance that physicians would do the rest. Thus, at the present time, the profession is being supplied with a package containing one regular 25-cent bottle and five single-dose vials bearing the name Sal Hepatica. If only a small percentage of the physicians who receive these samples distribute them, the increase in Sal Hepatica consumers may be imagined. How successful this scheme of the Bristol-Myers Company has been is only too evident. Sal Hepatica is one of the best-selling laxatives in department stores and drug stores to-day.

While the evils of indiscriminate purgation are now generally recognized, the referee wishes to quote and to indorse the pertinent comments on this subject by THE JOURNAL:¹

"The abuse of saline cathartics by the public is an evil deserving of serious attention. Rightly or wrongly, the laity fear constipation and naturally take what they are taught to believe is the cheapest and simplest course for its relief, self-drugging by means of saline cathartics or the extensively advertised purgative mineral waters. This habit is responsible for much of the distressing spastic constipation that exists, and its accompanying neurasthenia. The advertisement and sale to the laity of such a nostrum as "Sal Hepatica" can only increase these evil results and the physician who aids and

1. THE JOURNAL A. M. A., March 26, 1910, p. 1071.

abets the evil by using the preparation should reflect whether he is thereby not only encouraging a fraud on the public but also, what is even worse, helping to impair the public health."

It is recommended that this report be authorized for publication in order that physicians may know the extent to which they have been made to act as advance agents for "patent medicines." It is hoped its publication may suggest to those who in thoughtlessness have recommended *Sal Hepatica*, that they go to their *materia medica* and renew acquaintance with the host of simple and efficient laxative salts which are available—magnesium sulphate, sodium sulphate, sodium phosphate and the palatable effervescing preparations of these which the *Pharmacopeia* provides—effervescent magnesium sulphate (*Magnesii Sulphas Effervescens*, U. S. P.), effervescent sodium phosphate (*Sodii Phosphas Effervescens*, U. S. P.).—(*From The Journal A. M. A., Feb. 7, 1914.*)

SANMETTO

Report of the Council on Pharmacy and Chemistry

The following report on Sanmetto (Od Chemical Company, New York) has been adopted by the Council on Pharmacy and Chemistry, which authorized its publication.

W. A. PUCKNER, Secretary.

Sanmetto is one of the oldest proprietaries on the market. Its advertisements have been familiar to the readers of medical journals for several decades past. It is a typical nostrum. It is secret although the promoters have published various "near-formulas." The following are some of the statements regarding composition:

"A Scientific Blending of *True* Santal and Saw Palmetto with Soothing Demulcents in a Pleasant Aromatic Vehicle."

As this did not disclose the identity of the demulcents or the quantity of the alleged active constituents, the "formula" was, of course, meaningless.

Again it is:

"A Scientific blending of *true* Santal and Saw Palmetto in a pleasant aromatic vehicle."

Here the reference to "soothing demulcents" is omitted. The information furnished physicians at the present time is:

"It is a blend of harmonizing drugs."

A letter from a physician requesting information as to the exact composition of Sanmetto recently elicited the following reply:

" . . . Sanmetto is a blending of true santal and saw palmetto with soothing demulcents in a pleasant aromatic vehicle. The demulcents are introduced not only for the purpose of modifying the irritant properties of the santal, but to add distinctively to the soothing properties of

the finished product upon the mucous membrane of the urinary tract, and are not mentioned in our published formula for the simple fact that if we gave them, then we would do the advertising and the substitute manufacturer would engage in the 'unfair competition' of putting on the market his concoction, claiming to be made exactly after our formula, without spending a cent for advertising, relying upon our propaganda work to sell his substitute, although not the same article as nor equivalent to Sanmetto, from the fact that he would be working in the dark as to the processes in the manufacture of our product. There is no mineral substance in Sanmetto, nor any other ingredient that is detrimental in any way whatsoever. . . .

"OD CHEM. CO.,

"M. Haman, Pres't."

THE VALUE OF SANTAL AND SAW PALMETTO

The foregoing warrants the assumption that the active ingredients of the mixture are sandalwood oil and saw palmetto.

There was a period when the internal treatment of gonorrhea had a marked vogue. Balsamic remedies received the approbation of the medical profession as the most specific of internal remedies for this disease. As a representative of this class, sandalwood oil was very highly esteemed and had great popularity. As in other similar instances, this popularity was commercialized and the drug became the basis of many secret or semisecret mixtures, including "specialties" of pharmaceutical houses.

Sabal or saw palmetto is an official drug which at one time was used in genito-urinary affections, but now is seldom used, presumably because it has been found practically worthless. It is not mentioned by most pharmacologists, and those who do mention it regard it as of doubtful value. It is included among the preparations recommended for deletion as given in the report of the Committee on the Pharmacopeia of the American Medical Association (*THE JOURNAL*, Sept. 4, 1909, p. 792).

Even granting that sandalwood oil and saw palmetto do have therapeutic value, no one would think of regarding either or both of these preparations as of use except in inflammatory conditions of the genito-urinary tract, especially gonorrhea.

If one is to believe the advertisements, however, the combination of these drugs in Sanmetto is a wonderful medicine. One might even conclude that there are few conditions in which it cannot be given with profit. For instance:

"In Nervous Diseases, especially Neurasthenic cases with origin in some sexual or genito-urinary disorder, for its action as a vitalizing tonic and reconstructive, restoring nutrition to germ plasm, relieving pathological conditions and for soothing and sustaining the nerves controlling the parts."

Bear in mind in reading the foregoing statement and the following that we are concerned with two drugs whose effects are exerted on mucous membranes especially of the genito-urinary tract.

"In Gestation Cases, showing tendency to albumin and convulsions, for toning the pelvic organs, clearing up the urine and cleansing the urinary bladder and outlet. In the Lying-in-Room for relieving the affections of urethra and bladder, painful strangury of the urethra and painful micturition due to the pressure of foetal head upon the neck of the bladder and upon the urethra during labor, and infection, either septic or gonorrheal."

"In Weakness of the Kidneys, causing loss in tone and general health and Impairment of Eyesight—for strengthening the kidneys and bladder and toning the nervous system; and also for aiding in the constitutional treatment of Gonorrheal Infection of the Eyes.

"In the treatment of the Prostate, Testes, Mammæ, Ovaries, and Urethra, Kidneys and Bladder, for its soothing, slightly antiseptic, aphrodisiac, toning and restoring action to the mucous membrane and glands. By its use the parts affected in many cases returning to their normal condition."

While the reference to its aphrodisiac action and to the restoration of parts to the normal may have little interest to physicians, it may be counted on to appeal to the sexual neurasthenic. In premature senility:

"Sanmetto . . . is unexcelled as a vitalizing tonic to the withered glands of the reproductive system, promoting their normal secretory activity."

These claims are not only absurd but also harmful; they tend to perpetuate a hypochondriacal state of mind in the class of patients appealed to—the sexual neurasthenic. There is, however, a more serious side; the tendency of certain other claims made for the preparation are vicious and dangerous as well as misleading. The advertising claims are likely to induce some physicians—those who accept advertising "literature" as dependable—to belittle the importance of serious diseases of the sexual organs and to be content with Sanmetto, which, even if it gave as good results as other balsamic remedies, would be, at best, only a halfway measure. This in an advertising pamphlet physicians are given this advice as to the treatment of gonorrhea.

"To provide the needed rest the patient should be instructed to simply keep the parts clean with warm water for the first week and let the discharge continue until you can control it by internal medication. I wish to emphasize the fact that there is no way that any acutely inflamed portion of the genito-urinary tract can get the rest required so completely as by administration of Sanmetto. . . . After the acute gonorrhea has begun to subside the Sanmetto should be aided by mild astringent injections."

If there is any well-established fact in medicine, it is that gonorrhea is a serious disease—serious alike to the sufferer and to the community—and one which needs careful attention from the very first. To claim, either directly or by implication, that it can be cured by such a mixture designed to act on the kidneys, bladder and nervous system is false and dangerous doctrine.

The physician who prescribes Sanmetto prescribes a secret medicine for conditions which he is presumably competent to treat with simple remedies of which he knows the origin

and action and which he can vary to suit the needs of the individual.

Sanmetto is a secret nostrum the exploitation of which is an invitation to haphazard, uncritical therapy and a menace to public health.—(*From The Journal A. M. A., March 13, 1915.*)

SECRETOGEN

Report of the Council on Pharmacy and Chemistry

The Council has authorized publication of the following report dealing with two internal secretion specialties—Secretogen Elixir and Secretogen Tablets—to call attention to the unfounded and extravagant claims made for this class of products.

W. A. PUCKNER, Secretary.

Test tube experiments show that pepsin hydrolyzes proteins in acid solutions; that pancreatin digests protein in alkaline liquids, and that diastase converts starch into sugar. Based on these facts, it was assumed that these ferments would aid digestion. This assumption was correct if limited to certain cases of dyspepsia in which it can be shown that certain ferments are absent or deficient. But this limitation was not realized or remembered; on the contrary, the indiscriminate use of digesting ferments in all kinds of cases of indigestion became widespread and still continues, although to a less extent. Herein lies the great disappointment that has followed the use of these ferments.

More recently hormones were discovered, and while their importance has not been fully worked out, it has been assumed that they are responsible for the secretion of digestive ferments, and that in their absence this secretion fails. Without waiting for proof of this assumption, that is, that digestive failure is due to lack of hormones, proprietary medicine promoters are already placing on the market various secretion specialties.

As an example of this new class of specialties and of the unfounded claims made for them, your referee presents the following report on Secretogen Elixir and Secretogen Tablets offered to physicians by the G. W. Carnrick Company.

Secretogen Elixir is said to contain pancreatic secretin obtained from the duodenum with $\frac{1}{10}$ of 1 per cent. of hydrochloric acid. Secretogen Tablets are said to be prepared from pure secretin and succus entericus obtained from the epithelial cells of the duodenum. The claims for Secretogen are based on the physiologic action of secretin as described by various observers. To determine whether these claims are justified it becomes necessary to review the evi-

dence advanced to prove that secretin stimulates the digestive glands.

Secretin is a hormone, a chemical substance produced by the action of hydrochloric acid on a previously formed substance, "prosecretin," contained in the cells of the intestinal mucous membrane, especially of the duodenum. Secretin is absorbed by the blood and carried to the pancreas, liver and intestinal mucosa, which are thereby stimulated to produce their characteristic secretions, namely, bile, pancreatic juice and succus entericus. When secretin is injected into the blood, it causes an increase in the flow of these secretions. Some observers have claimed that secretin is absent in cases of diabetes in which the pancreas is still found normal. Wentworth¹ reported several cases of marasmus in which he found no evidence of prosecretin. This deficiency, he believes, is the cause of this disease.

The Carnrick² Company, adopting the foregoing views, namely, that secretin is necessary to secure the normal action of pancreas, liver and intestine, as proved, placed on the market their specialty "Secretogen," to take the place of the missing secretin.

The foregoing conclusion cannot, however, be sustained. There are numerous cases in which no hydrochloric acid is produced in the stomach and hence—as it is produced by the action of hydrochloric acid—no secretin can be produced in the intestine. Yet in these cases the pancreatic juice and bile are secreted in normal amounts and digestion goes on normally after the food leaves the stomach. In such cases the pancreas and liver must be stimulated to secretion by some other mechanism than secretin.

The proof that the absence of secretin is characteristic of diabetes or of marasmus is not yet available. Sweet and Pemberton² found that many circumstances interfered with the extraction of secretin, so that the mere failure to obtain it in a given case is not proof of its absence, unless the various inhibiting influences are given due consideration. The conclusions reached by these authors are that "the evidence so far adduced that secretin is absent in some varieties (of diabetes) does not seem conclusive," and that "the specific absence or deficiency of secretin in marasmus seems to remain as yet unproven."

The favorable reports of Moore³ in regard to the use of secretin in diabetes are not confirmed by the experience of

1. Wentworth, A. H.: The Cause of Infantile Atrophy, Deduced from a Study of Secretin in Normal and Atrophic Infants, *THE JOURNAL A. M. A.*, July 20, 1907, p. 204.

2. Sweet, J. E., and Pemberton, R.: Experimental Observations on Secretin, *Arch. Int. Med.*, February, 1908, p. 231.

3. Moore, Edie and Abram: *Biochem. Jour.*, 1906, i, 28; *ibid.*, i, 446.

Foster⁴ in five cases, or by the case reported by Dakin and Ransom.⁵

In regard to the use of secretin in intestinal disorders, the G. W. Carnrick Company refers to an article by J. W. Beveridge.⁶ An examination of this article shows it to be unscientific and uncritical. The author presents four cases to "demonstrate the peculiar potency exercised by secretin." Of the first he says:

"Stomach was dilated, food delay, seventy-two hours; hyperacidity, vomiting daily, five to twelve times, urine high specific gravity, over 3 per cent. urea, trace albumen."

The patient improved somewhat after gastro-enterostomy with removal of the gallbladder; the vomiting ceased, but the stools continued clay-colored and the high urea output still kept up. Secretin was given, and after this the report continues:

"The stools became normal in color at the end of the second month, weight gradually increased until 122¾ pounds was reached, and the urea is now normal, averaging about 1 per cent."

This case is offered to prove the absence of secretin and its effect when given by the mouth. As evidence of hepatic insufficiency the author apparently relies on the color of the stools, and for pancreatic insufficiency he cites the high urea output. He claims that when the pancreas does not furnish an efficient secretion, the proteins of the food fail to be converted into amino-acids, and instead, raise the percentage of urea. Consequently, he concludes that a high percentage of urea indicates the absence of secretin. It is usually held that a high percentage of urea depends on two factors, ingestion of a large amount of protein and concentration of the urine. The author gives no data as to the amount of albuminous food, the amount of urine, or whether the percentage of urea was learned by examining a single specimen or the total quantity for twenty-four hours. The mildest judgment that can be passed on such clinical data is that they are totally inadequate. Without doubt the percentage of urea could have been reduced to "normal" by causing the patient to drink water freely. The remaining cases show similar hasty conclusions from insufficient data, rendering them worthless as evidence.

The G. W. Carnrick Company introduces a number of testimonials as to the value of Secretogen. These testimonials are similar to all testimonials. They include no evidence of careful diagnosis, and present an uncritical esti-

4. Foster, N. B.: Cases of Diabetes Treated with Secretin, *Jour. Biol. Chem.*, January, 1907.

5. Dakin, H. D., and Ransom, C. C.: Treatment of Case of Diabetes with Secretin, *Jour. Biol. Chem.*, January, 1907.

6. Beveridge, J. Wallace: Secretin, *Am. Jour. Gastro-Enterology*, April, 1914, p. 170.

mate of the results. They show that the writers have given Secretogen Elixir or Tablets indiscriminately in almost the whole range of digestive disorders, in nephritis, neuralgia, liver disease and gallstones, exophthalmic goiter, neurasthenia, epilepsy, etc. As dependable evidence, these testimonials are not worthy of consideration.

A rational basis for the therapeutic value of Secretogen is lacking for the following reasons:

1. No evidence has been presented that the absence of secretin is a cause of gastro-intestinal diseases. It is usually present, and if not present, as in achylia gastrica, there is evidently some compensating arrangement by which the pancreas is stimulated to perform its regular functions.

2. There is no evidence that secretin in any form is physiologically active when administered by the mouth.

REFERENCES

- Fleig, M. C.: Action de la sécrétine, Arch. gén. de méd., lxxx, 24.
 Charles, J. R.: Treatment of Diabetes with Secretin, Bristol Med.-Chir. Jour., September, 1906; Med. Press and Circular, Nov. 21, 1906.
 Meltzer, S. J.: Animal Experimentation in Relation to our Knowledge of Secretions, Especially in Internal Secretions, THE JOURNAL A. M. A., May 7, 1910, p. 1506.
 Wentworth, A. H.: The Cause of Infantile Atrophy, Deduced from A Study of Secretin in Normal and Atrophic Infants, THE JOURNAL A. M. A., July 20, 1907, p. 204.
 Bambridge and Beddard: Guy's Hospital Reports, 1907, lxi, 161.
 Enriquez and Hallion: Nuevas nociones sobre la digestion. Secretin, Importancia fisiologica y patologica, Transactions of 14th Int. Med. Congress, Madrid, 1904.
 Enriquez: La Sécrétine Médication acide duodénale Stimulation de fonction sécrétiniques chez l'homme., Rev. de. thérap. méd.-chir., Paris, 1904, lxxi, 187.

—(From The Journal A. M. A., May 1, 1915.)

SINKINA

Report of the Council on Pharmacy and Chemistry

Sinkina is a malaria "cure" put on the market by the Metropolitan Pharmacal Company, New York. The product was presented to the Council on Pharmacy and Chemistry for admission to New and Nonofficial Remedies and was rejected because insufficient evidence was submitted to substantiate the improbable claims made for it. The manufacturers were sent a copy of the report stating that their product was refused recognition. In view of the advertising that was persisted in after its rejection, the Council's referee for Sinkina submitted the preparation to clinical tests. Both the original report and the results of the clinical tests are given in the following report, which was submitted to the Council and recommended for publication. The complete report having been sent to the manufacturers and their reply considered, the Council authorizes its publication.

W. A. PUCKNER, Secretary.

THE COUNCIL'S FIRST REPORT

The Council, after investigating the claims made for Sinkina, declared the product unworthy of recognition and adopted the following report, which was sent to the manufacturers:

No experimental evidence regarding the therapeutic value has been submitted. The clinical evidence is scant and not of such character as to deserve much consideration, no sufficient precautions having been adopted to avoid wrong conclusions. Judging from the evidence at hand the preparation is simply a dilute sugar-alcohol-water solution containing a little oil of cumin—Roman caraway. It is highly improbable that such a liquid would have the therapeutic effects claimed for it by the Metropolitan Pharmacal Company. In view of the improbable claims made for Sinkina, and the failure to substantiate them by suitable evidence, it is recommended that the preparation be refused recognition without at this time considering the claims made in regard to the identity and amount of the drug claimed to be the essential constituent.

In spite of its rejection Sinkina was persistently advertised. It was thought advisable, therefore, to submit the preparation to clinical tests. This was done and the results are given in the following report:

THE CLINICAL REPORT

The following quotations indicate the claims made for this preparation:

"In malarial conditions there is nothing that acts so promptly and efficaciously as Sinkina. Sinkina destroys radically every trace of the parasite in the blood from the time of its first appearance, builds up the damaged corpuscles, revitalizes the system, and completely eliminates every trace of the disease. Sinkina is deservedly termed the *Specific* for Malaria."

These claims were supported by testimonials which usually gave no indication of a demonstration of the presence or absence of malarial plasmodia in the blood. The following is an example showing the character of most of the evidence presented by the manufacturers:

"Three weeks ago I prescribed Sinkina for a negro man 40 years of age suffering from a double tertian malarial infection having a chill every afternoon for four consecutive days. He came to my office about 8 a. m. and was due to have a chill about 6 p. m. I gave him the sample of Sinkina and directed him to take a tablespoonful at once, also at noon and again at 4 p. m., and to continue taking it in same size dose three times a day till he had taken it all. He reported to me in a week from that date and told me he was feeling fine and that he hadn't had any more chills. The patient up to this time is apparently cured."

As the claims were supported by a few testimonials purporting to be based on exact investigations, the Council submitted the preparation to careful laboratory and clinical tests. For this investigation the Council was fortunate in

securing the help of physicians actively engaged in the study of malaria.

Experiments were made *in vitro* with the preparation; 1 ounce of Sinkina was used, and its action was compared with that of 10 grains of quinin sulphate. When these were added to cultures of malarial plasmodia in proportion corresponding to 1 ounce of Sinkina or 10 grains of quinin sulphate for a 150-pound man, the quinin was found to be unfailingly antagonistic to the malarial organism, the drug prevented the segmentation of the organism, and finally killed it in about thirty-six hours. The Sinkina did not kill the parasite after seventy-two hours of continued action, and the parasites segmented in the presence of it just as actively as they did in the control.

The investigator was furnished with two sets of preparations in plain prescription bottles so as to avoid all influence of the personal equation. One set consisted of Sinkina, the other of a mixture of alcohol, sugar and water with some oil of cumin. The investigator reported that, so far as the tests on the cultures of malarial plasmodia were concerned, he could not determine any difference in the results obtained with the oil of cumin preparation, made in the laboratory of the Association, and those obtained with the Sinkina of the Metropolitan Pharmacal Company. Clinical trials were made by three independent investigators. Two of them received the two sets of preparations described.

FIRST INVESTIGATION

The first investigator treated two cases with Sinkina: one was of the ordinary estivo-autumnal type and the other an ordinary tertian.

CASES 1 AND 2.—A good many schizonts were present in the blood of each patient forty-eight hours after the administration of Sinkina. In the instance of the case of tertian the patient had his chill forty-eight hours after the medicine had been started. As the Sinkina failed to produce any effect the patients were then put on quinin to stop the disease.

CASE 3.—The patient had taken 10 grains of quinin on the day on which the experiment was begun. He had the tertian form of the disease, and plasmodia were quite numerous at the beginning. The quinin was discontinued and Sinkina was given in doses of 1 ounce three times a day. The day following the administration of 10 grains of quinin and 1 ounce of Sinkina, no parasites could be found in the blood. The Sinkina was continued in the doses mentioned. On the seventh day the patient had another chill, and a great many parasites were found in his blood. The Sinkina was discontinued and the patient was at once relieved by quinin.

This investigator gives it as his opinion, based on these observations, that the preparation (Sinkina) is absolutely worthless in the treatment of malaria, and he does not think it necessary to make any further experiments with it.

SECOND INVESTIGATION

The second investigator treated two cases of tertian malarial fever with these preparations until it was satisfactorily proved that the drug was having no effect on the presence of the parasites in the blood, when he began the administration of quinin.

CASE 4.—After the use of the remedies for one week the investigator still found young rings half-grown and gametes present in the blood. Apparently there was a relative increase in the number of parasites. He then began the administration of quinin. Blood-smears taken the next day after 40 grains of quinin had been taken showed one parasite after eighteen minutes' search of one slide, and two after thirty minutes' search of a second slide. At the end of a week's treatment the patient was discharged recovered. The blood examination of two slides was negative.

CASE 5.—This was a case of tertian malaria. After treatment for five days with Sinkina the blood still showed tertian parasites with increase in the size of the spleen, and the preparation was without effect on the clinical course of the disease. Quinin was then begun, and the blood examination became negative at the end of three days.

The investigator concludes that the preparations furnished him were absolutely worthless in the treatment of two cases of the tertian form of malarial fever, and that these solutions had no effect on the presence of the parasites in the peripheral circulation. In a case of quartan malaria, both of the preparations (cumin oil mixture and Sinkina), sent by the Association Laboratory, were without effect on the plasmodia in the blood. This investigator employed the solution made by the Association Laboratory (cumin oil mixture) as well as Sinkina, and was unable to note any differences between them.

THIRD INVESTIGATION

The third investigator began the trial of Sinkina at the instance of the manufacturers, and used it in three cases, two of them being benign tertian malaria and one case of mixed infection (benign tertian and estivo-autumnal).

CASE 6.—This was one of the cases of benign tertian malaria. The patient gave a clinical history of malaria with chills occurring on alternate days for a little over a week. There was an immediate cessation of all clinical symptoms, and three days after the patient had been on $\frac{1}{2}$ ounce of Sinkina three times daily there was no evidence of any plasmodia in his blood; his additional treatment consisted of 5 grains of calomel the evening of the first day with a saline the next morning. Before the patient was put on treatment, numerous parasites of both the asexual and sexual forms were observed. The patient remained in bed for a few days, and then returned to work. A week later he was again taken ill with a return of all of his previous clinical symptoms.

CASE 7.—This case was one of mixed infection (benign tertian and estivo-autumnal). The patient had a clinical history of malaria dating back two weeks, with a maximum temperature of 104 on admission. Tertian rings, estivo-autumnal rings and crescents were found in the blood. The patient was placed in bed, given thorough eliminating treatment, and $\frac{1}{2}$ ounce of Sinkina was administered four times daily. His clinical symptoms ran on for two days with no change, and there was no difficulty in finding the plasmodia in blood-smears, which were taken twice daily. The dose was then doubled and at the end of four days more there was no change in either his clinical symptoms or the blood-findings. The patient was then placed on 10 grains of quinin sulphate with 15 drops of diluted hydrochloric acid three times daily, to which he responded in less than forty-eight hours and made an uneventful recovery.

CASE 8.—This was the other case of benign tertian malaria. The patient had chills every other day while on the treatment, and laboratory diagnosis confirmed the clinical findings. Experimental treatment was carried on for four days, with a negative result.

The investigator calls attention to the fact that the first case in which improvement resulted does not show any necessary connection with the Sinkina administered, for many cases of benign tertian malaria will clear up in just as short a time under any line of treatment, while practically all will eventually do so. This investigator later reported another case and transmitted a clinical chart.

CASE 9.—This patient was admitted to the hospital, Dec. 30, 1912, with a history of having had malaria for some weeks. The diagnosis was confirmed by a blood examination. He was then carried for four days without treatment other than rest in bed and a liquid diet. His symptoms subsided by the third day. On the fourth day a count of the parasites was made which showed that there were 1,160 asexual parasites and 260 sexual forms to every thousand leukocytes. The following day he was placed on Sinkina, 1 ounce three times daily. There was exacerbation of symptoms on the following day, which gradually increased until the fourth day, remaining about stationary for a day or so. The fifth day after the patient had been placed on Sinkina, another count of the parasites showed 5,600 asexual parasites and 300 sexual forms to the thousand leukocytes, this being an increase of 4,440 asexual forms and forty sexual forms to every thousand leukocytes. With the second count of parasites the dose of Sinkina was increased to 2 ounces every four hours, the patient being kept on this until January 14, without result. He was then placed on quinin, with a complete reduction of the temperature to normal and the disappearance of the parasites from the blood.

The investigator also reported a case of benign tertian malaria.

CASE 10.—This was in a child of 8 years which was treated by the investigator's confrère and gave similar negative results. Blood examination showed numerous par-

asites. The child was placed on 1 ounce of Sinkina three times a day and kept on it for two weeks. The clinical picture remained unaltered, and parasites could be detected in numbers whenever examinations were conducted. A gradually increasing enlargement of the spleen was also noted. At the end of two weeks quinin was substituted, and the child went on to a rapid and uneventful recovery.

This investigator also concludes that the claim put forth by the Metropolitan Pharmacal Company that Sinkina is a specific in the treatment of the malarial fevers is entirely without foundation, and that the firm will be unable to demonstrate to the contrary.

These investigations demonstrate that Sinkina is not a specific against malaria, and that it has no more effect than a mixture of oil of cumin, sugar, alcohol and water. They further show the fallacy, first, of concluding from a temporary cessation of the symptoms in malaria that the disease has been cured and, second, of ascribing such temporary improvement to the influence of a remedy which has no known effect on the malarial organism.—(*From the Journal A. M. A., Sept. 27, 1913.*)

SOMNOS

Report of the Council on Pharmacy and Chemistry

To the Council on Pharmacy and Chemistry of the American Medical Association:—Your subcommittee, to whom was assigned Somnos, H. K. Mulford Company, submits the following report of experiments, undertaken to compare the effects of Somnos with those of chloral hydrate. These experiments demonstrate that the statements made in regard to the action of Somnos are in conflict with Rule 6 of the Council, which requires: "No article will be admitted or retained concerning which the manufacturer or his agents make unwarranted, exaggerated or misleading statements as to the therapeutic value." It is, therefore, recommended that Somnos be not approved for inclusion in the book until the claims made for it are corrected. It is also recommended that the report be published:

The Pharmacology of Somnos

When these experiments were begun, April, 1906, there was nothing in the advertising literature on Somnos to indicate whether this article is a solution or a pure substance. On the label on the bottle, in the circular accompanying the bottle, and in the booklet "Somnos," the word Somnos seemed to be used as a synonym of "Chorethanal alcoholate," $C_9H_{11}O_5Cl$, and physicians were prescribing and pharmacists dispensing it in the belief that it was a pure substance. "The pure substance; some kind of an alcohol; nothing to do with choral," was the way the druggist from

whom the samples were purchased put it. Thus information absolutely indispensable for any rational comparison of Somnos with other hypnotics was withheld from the physician.¹

Hence, before beginning the physiologic experiments it was necessary to determine the strength of the preparation; for this purpose three chlorin determinations (by the Carius method) were made. On the assumption that all the chlorin present was in combination as chloral glycerate, $C_3H_5[CCl_3.C(OH)_2]_3=C_9H_{11}O_6Cl_9$, and calculating the percentage of this in Somnos, the following results were obtained: (1) 5.11 per cent.; (2) 5.15 per cent.; (3) 5.10 per cent.

Somnos, therefore, was found to contain approximately 5 per cent. of chloral glycerate and its physiologic action was compared with that of a 5 per cent. solution of hydrated chloral. In some experiments the hydrated chloral was dissolved in water; in others, in 10 per cent. alcohol (Somnos was found to contain at this time about this percentage of alcohol); in other experiments glycerin was added, as Somnos was found to contain this substance. No very marked differences were found in the physiologic action of the three solutions.

FATAL DOSE OF SOMNOS FOR THE LOWER ANIMALS

The booklet on Somnos states that "Somnos has no toxicology"; that while chloral hydrate causes "acute poisoning," "deep coma," etc., Somnos is "harmless in twenty times the dose prescribed," "coma unknown, etc." The physician would scarcely suspect from such statements that Somnos is as poisonous a substance as solutions containing hydrated chloral in corresponding amount; that such is the case is shown by the following experiments. These experiments were necessarily made on the lower animals. While such results do not enable us to draw very definite conclusions as to the absolute toxicity of poison for man, the results on animals are conclusive as regards the relative toxicity for man of such closely related drugs as hydrated chloral and Somnos.²

* * * * *

CONCLUSIONS

To sum up our results on the physiologic action of Somnos: We have been completely unable to verify the claims of the manufacturers that Somnos is less toxic than hydrated chloral, or that it has a less depressing effect on temperature, respiration or circulation. On the contrary, the physiologic effects

1. Two weeks ago (JOURNAL A. M. A., Sept. 1, 1906, p. 695) it was pointed out that the manufacturers now give this information, but in a wholly unnecessarily obscure form.

2. That portion of the report describing the experiments on animals is here omitted. It was printed in full in THE JOURNAL and in the Report of the Council on Pharmacy and Chemistry, 1905-1908.

are indistinguishable from those of hydrated chloral, doubtless because the action of Somnos is simply the action of hydrated chloral. We can see nothing in the animal experiments or in the chemical composition which would suggest that Somnos would possess therapeutic advantages over an elixir of hydrated chloral of corresponding strength.³

It is to be hoped that physicians who have been blindly using Somnos without even knowing the strength of the preparation, much less what it is, will compare its effects with those of a 5 per cent. elixir of hydrated chloral.³
—(*Abbreviated from The Journal A. M. A., Sept. 15, 1906.*)

SUCCUS ALTERANS

Report of the Council on Pharmacy and Chemistry

The following report was adopted by the Council:

It is believed that unwarranted and exaggerated therapeutic claims are made for Succus Alterans by its manufacturers, Eli Lilly & Co., Indianapolis. In view of the disastrous results which may follow, if, from the statements made, physicians should be led to rely on the product as a treatment for syphilis, it is recommended that Succus Alterans be refused recognition and that this fact be published with comments.

W. A. PUCKNER, Secretary.

3. The booklet on Somnos, "Somnos, a Pharmacological Report," which is referred to here, contains a "Therapeutic Index to the Usefulness of Somnos." We give below a list of diseases mentioned in this index to show the wide range of usefulness (?) that is claimed for this chloral compound. Abortions. Abscess—of brain, kidney, liver, tonsils, parotid gland, mediastinum; in appendicitis, glanders, perinephritic, retropharyngeal, pyemic, pelvic, ovarian. Somnos lessens pain and quiets nervous state. Tablespoonful, repeated once or twice. Use liberally. Alcoholism—full doses repeated often. Gives calm sleep. No blood changes like those produced by chloral. Anemias—progressive and secondary. Somnos has no deleterious action on blood as is common with other hypnotics. Aneurism. Angina. Apoplexy. Appendicitis. Arthritis. Arsenical poisoning. Arteriosclerosis. Asthma. Biliary colic, Bright's disease. Carbuncle. Carcinoma. Catarrh. Cellulitis. Cerebrospinal fever. Chlorosis. Cholecystitis. Chordee. Chorea. Cirrhosis. Coccydynia. Colic. Colitis. Concussion. Confusional Insanity. Contusions. Convulsions. Coryza. Cough. Cramps. Cystitis. Delirium. Diabetes. Diarrhea. Diphtheria. Dropsy. Dysmenorrhea. Dyspnea. Ear. Emphysema. Empyema. Endocarditis. Endometritis. Epididymitis. Epilepsy. Erysipelas. Fevers. Fistula. Gallstones. Gastralgia or Gastrodynia. Gastritis. Gonorrhea. Goiter. Gout. Hallucinations. Hay fever. Headache. Heart Disease. Hemiplegia. Hiccough. Hydronephrosis. Hydrophobia. Hydrothorax. Hyperesthesia. Hysteria. Indigestion. Inflammation. Insomnia. Kidney disease. Laryngitis. Liver abscess. Cirrhosis. Lobar pneumonia. Lockjaw. Locomotor ataxia. Lumbago. Mal de mere. Malarial fever. Meningitis. Migraine. Melancholia. Metritis. Morphinism. Muscular rheumatism. Myelitis. Myocarditis. Myositis. Nephritis. Nervous dyspepsia. Neuralgia, occipito-cervical, etc. Neurasthenia. Neuritis. Night sweats. Orchitis. Otitis media. Parethesia. Paralysis. Parotitis. Peliosis rheumatica. Pericarditis. Perimetritis. Perihepatitis. Perichondritis. Peritonitis. Pertussis. Petit mal. Pharyngitis. Phthisis. Pleurisy. Pneumonia. Post-epilepsy. Prolapsed uterus. Pseudo angina pectoris. Purpura. Rabies. Rheumatic fever. Salpingitis. Sarcoma. Scarlet fever. Smallpox. Spasms. Stomach. Stomatitis. Sunstroke. Tetanus. Tonsillitis. Trauma. Trismus. Typhoid fever. Typhus fever. Ulcers. Urticaria. Varicella. Vomiting. Vulvitis. Yellow fever.

COMMENT: Succus Alterans is a preparation which has been put on the market for some years by Eli Lilly & Co., as a remedy for syphilis. The serious character of this disease and especially the deplorable results that ensue from its improper or insufficient treatment, should make a firm hesitate to advise any treatment for it which experience has not demonstrated to be at least as efficacious as that which is generally accepted and well proved. Succus Alterans is the result of a combination of circumstances; no one person is responsible for it. It was probably the natural desire for a remedy free from the occasional injurious results of mercury that led Dr. J. Marion Sims to advocate the use of a collection of indigenous American plant drugs, sarsaparilla, stillingia, xanthoxylum, etc., which had a local reputation for the cure of syphilis. These drugs are supposed to be inert when the dried plants were used, and this gave an opportunity for the development of a nostrum. The ingredients are well known, but as their virtues are supposed to be lost in drying, the physician can not have his druggist compound them, but must, perforce, prescribe the proprietary combination.

Those who consented to experiment with the new remedy soon found that the claims to curative properties were unfounded, but the strong commercial interests backing it have prolonged its life to the present time. Authorities on syphilis either say nothing about the preparation or mention it merely to condemn; but the proprietors of the nostrum continue to assert that it is not only practically a specific in syphilis, but now recommend it for various derangements of the blood and all sorts of skin diseases.

This being the case, what shall the wise physician do? Shall he blindly follow an authority of a past generation or shall he recognize that the claims of an interested manufacturer ought not to weigh against the consensus of his present-day confrères who have given the treatment of syphilis their special attention? The exploitation of such a preparation is deserving of strong censure. By such methods the firm places itself on the same plane as those nostrum venders, who advertise certain antiseptic sprays and gargles as cures for epidemic meningitis and diphtheria and thereby deprive credulous victims of the curative antitoxin treatment. Succus Alterans is not a new remedy on trial for its possibilities of improvement in therapeutics; it is an old mixture which has been tried and found wanting.—
(From the Journal A. M. A., June 26, 1909.)

SULPHO-LYTHIN

Report of the Council on Pharmacy and Chemistry

Sulpho-Lythin is sold by the Laine Chemical Company, New York. In the literature sent to physicians it is said: "This product, the sulpho-phosphite of sodium and lithium

(non-effervescent), is entirely new and is unique in its action."

Chemical analysis of a specimen of Sulpho-Lythin purchased in the open market indicated its composition to be:

Sodium sulphate, anhydrous.....	10.51
Disodium hydrogen phosphate, anhydrous.....	56.67
Sodium thiosulphate, anhydrous.....	20.78
Sodium chlorid	5.98
Lithium, as citrate.....	3.12
Sulphur, free	0.16
Moisture	1.53
Loss	1.25

The examination, therefore, shows that Sulpho-Lythin is a mixture consisting mainly of sodium sulphate and sodium phosphate and sodium thiosulphate. The statement that it is a "sulpho-phosphite of sodium and lithium," therefore, is not correct, and a statement that "it is entirely new and unique in its action" appears unwarranted and misleading. It is, therefore, recommended that the preparation be refused recognition. It is also recommended that an article be prepared for publication calling attention to the exaggerated claims made for Sulpho-Lythin.

The recommendations of the subcommittee were adopted by the Council and in accordance therewith the report is published with comments, substantially as follows: The formula means that it is a solution of well-known salts, some of them under partially disguised names. Every one knows what Glauber's salts are good for. Disodium hydrogen phosphate is ordinary common sodium phosphate. Sodium thiosulphate is familiar as sodium hyposulphite, the "hypo" of the photographers. Every one knows, of course, that sodium chlorid is common salt. Examination and analysis of various specimens of this product demonstrated that its composition is not always the same. As an indication of the ignorance of the promoters of this nostrum it is interesting to note that the label on one of the bottles purchased states that it is a "sulphophosphate" instead of a sulphophosphite. Extravagant claims are made for this simple mixture of laxative salts, and these with the methods of using it are printed on the labels, and while it is claimed to be only advertised to the profession, the physician is repeatedly advised in the advertisements to "order always an original (six ounce) bottle to prevent substitution." The natural result of this would be, of course, to put the patient in the way of prescribing it for himself and to spread the advertisement of the drug among the public. Difficulty has been experienced in finding out who the promoters of this nostrum are and the correspondence in regard to it is published. They seem to prefer to be known by their corporate title of Laine Chemical Company only. It is a sample of many other so-called ethical proprietary drugs, most of which are simple mixtures of well-known drugs which physicians are using

every day and which require no skill in their compounding. Their proprietors not only presume to sell and advertise medicines but also to tell the physicians how to treat their patients.—(*Abstracted from The Journal A. M. A., Dec. 8, 1906.*)

TAUROCOL

Report of the Council on Pharmacy and Chemistry

The Paul Plessner Company, Detroit, places on the market Taurocol Tablets and Taurocol Compound Tablets. The company makes a pretense of giving the formula—minus any quantities—thus:

"Taurocol is a combination of bile salts, extracts of cascara sagrada, phenolphthalein and aromatics."

The "formula" given for Taurocol Compound Tablets is:

"Taurocol (Bile Salts).....	Gramme	.1296
Pepsin 1-3000.....	"	.0324
Pancreatic Ext.....	"	.0324
Extract Nux Vomica ($\frac{1}{8}$ gr.).....	"	.0081
Aromatics		Q. S."

A comparison of these two "formulas" with those furnished for Veracolate and Veracolate with Pancreatin and Pepsin shows that they are nearly the same.

The claims made for the Taurocol preparations are essentially those made for Veracolate preparations, as instance the following, which appears on a physician's sample of Taurocol:

"For Hepatic Insufficiency, Intestinal Putrefaction, Habitual Constipation."

Likewise the following, found on a Taurocol circular, duplicates claims made for Veracolate:

". . . Directly stimulates the liver cells, producing an abundant flow of bile rich in cholates, solvent of cholesterin and a biliary anti-septic."

Taurocol is objectionable for the reasons that apply to Veracolate, and Taurocol Compound Tablets are subject to the objections that apply to Veracolate with Pepsin and Pancreatin. (See p. 216.) The Council therefore refused recognition to Taurocol and its preparations.—(*From The Journal A. M. A., April 24, 1915.*)

TRI-IODIDES, THREE CHLORIDES AND MAIZO-LITHIUM

Report of the Council on Pharmacy and Chemistry

As an illustration of unreliability of claims and the unscientific character of proprietary mixtures, the Council has authorized publication of the following reports on Tri-Iodides, Three Chlorides and Maizo-Lithium, products of the Henry Pharmacal Co. (J. F. Ballard, proprietor).

W. A. PUCKNER, Secretary.

Tri-Iodides (Henry)

Tri-Iodides (Henry Pharmacal Co., St. Louis) is a nostrum whose ingredients apparently were selected at random. Since the effects of such a mixture cannot be predicted, no thoughtful physician would think of prescribing in any one condition all the drugs named in the formula of Tri-Iodides—if he had to write out the prescription. Yet because the misleading name of the preparation gives it the semblance of a therapeutic entity—and because it is advertised in medical journals—a certain number of physicians thoughtlessly prescribe this shotgun mixture.

LABORATORY REPORT

Regarding the composition of "Tri-Iodides" the Association's Chemical Laboratory makes the following report:

A trade package of Henry's Tri-Iodides purchased in 1910 bore the following formula on the label:

"Colchicin, 1-20 grain,
"Phytolaccin, 1-10 grain,
"Solamin, 1-3 grain,
"Sodium Salicylate, C. P., 10 grains,
"Iodic Acid (equal to $\frac{7}{32}$ gr. of Iodine) in two fluid drachms
of Aromatic Cordial."

In the circular which was wrapped with the bottle the wording of the formula differs somewhat from the foregoing, "iodic acid" of the label being replaced by "hydro-iodic acid." While the label on the bottle named "phytolaccin" as one of the constituents the label on the carton which contained the bottle gave "decandrin." The following formula appears on a trade package purchased June, 1914:

"Colchicine, 1-200 Grain,
"Phytolacca, 1 1-5 Grain,
"Mydriatic Alkaloids, 1-500 Grain.
"Sodium Salicylate, 3 1-2 Grain.
"Iodic Acid (equal to 7-125 Grain of Iodine) in two fluid drachms."

The differences between the formulas are striking. Colchicin has been reduced from $\frac{1}{20}$ grain to $\frac{1}{200}$ grain; sodium salicylate from 10 grains to $3\frac{1}{2}$ grains; iodine (claimed to be present as iodic acid) from $\frac{7}{32}$ grain to $\frac{7}{125}$ grain. "Phytolaccin" ("Decandrin") has been replaced by "Phytolacca" and "Solamin" by "Mydriatic Alkaloids." While the formula for the preparation has been changed, the circular accompanying the package still refers to "solamin" (in some parts of the circular wrongly spelled "salonin") and "phytolaccin." As no principle having the characteristic effects of poke-root is known to have been isolated the terms "decandrin" and "phytolaccin" are meaningless.

The circular states that solamin is an alkaloid obtained from the sprouts of *Solanum tuberosum*, but wrongly calls this plant "bittersweet" instead of potato. At the market

price the amount of solanin claimed, according to the old formula, to be present in a bottle of Tri-Iodides, would cost \$1.60, although a bottle of the preparation sold at wholesale for 67 cents.

Tri-Iodides is a dark brown, mobile liquid having a faint clove-like odor and a mawkish, sweet taste. Salicylate was found in considerable amounts. Traces of alkaloids were found, a portion of which appeared to be colchicin. Iodic acid and its salts were absent, although claimed by the formula to be present. Potassium iodid was present. Determinations of the iodine by distillation with ferric ammonium sulphate solution and sulphuric acid indicated the presence of about 1.68 gm. of iodine (equivalent to 2.18 gm. of potassium iodid) in each 100 c.c. of the preparation. This is equivalent to about 7.65 grains of iodine per fluidounce, or more than thirty-four times the amount claimed by the formula on the bottle. An approximate determination of the salicylic acid by extraction of the acidified preparation with ether and evaporation of the solvent indicated about 2.67 gm. in 100 c.c., equivalent to 3.09 gm. of sodium salicylate, or about 14.11 grains per fluidounce. Since the amount of sodium salicylate claimed is 3.5 grains in 2 fluidrams or 14 grains in each fluidounce, the amount found agrees essentially with the claims.

ABSURD CLAIMS

It should be unnecessary, after pointing out the conflict between the name and the published formula, between the formula and the actual composition, and between the composition and all established therapy, to discuss this heterogeneous and unscientific mixture further. A few specimen absurdities, however, may be quoted from the advertising "literature":

" . . . Free of the Disagreeable Effects of the Alkaline Iodides."

[Tri-Iodides, according to the laboratory report, depends for its iodine action on potassium iodid.]

" . . . we have an assimilable form of vegetable hydriodates.

"The hydriodates of these valuable vegetable alkaloids afford the specific alterative action of iodine without such disagreeable results as the iodism produced by the ordinary iodides."

["The hydriodates" is an obsolete term formerly applied to iodids of vegetable alkaloids. Iodids of vegetable alkaloids, if present at all in Tri-Iodides, are present in negligible amounts.]

"Containing Iodine in an available form, it is obvious that the formula must be beneficial in the majority of syphilitic skin lesions."

The falsity of the first two of these claims and the mischievousness of the last are self-evident.

It would be possible, but is unnecessary, to produce an almost unlimited amount of evidence to show the transparent character of the deception by which this preparation is exploited.

The referee feels that the nostrum will have been sufficiently characterized when he has mentioned further that the name "Henry's Tri-Iodides" is blown in the glass of the bottle, that the label contains the recommendation "For Gout, Rheumatism and other Diathetic Diseases," and that the circular accompanying the bottle recommends the use not only of Tri-Iodides, but also of Three Chlorides, Maizo-Lithium, Campho-Phenique and Satyria in the treatment of many diseases.

Three Chlorides (Henry)

Three Chlorides (Henry) is advertised as:

"An oxygen-carrying ferruginous preparation, suitable for prolonged treatment of children, adults and the aged. Indicated in anemia and convalescence from acute diseases and surgical operations."

The following report on the composition of Three Chlorides is submitted by the Association's Chemical Laboratory:

LABORATORY REPORT

It is claimed that each fluidram of Henry's Three Chlorides contains:

"Mercuric Bichlorid	1.72 Gr.
"Arsenic Chloride	1.40 Gr.
"Proto-Chloride Iron	2.25 Gr.
". . . in a cordial of Calisaya Alkaloids."	

The preparation is a pale yellow, clear solution having an odor of alcohol. The addition of potassium ferricyanid solution does not produce any blue coloration, thus demonstrating the absence of ferrous chlorid (iron protochlorid). Instead potassium ferrocyanid solution produces at once an intense blue precipitate and potassium sulphocyanate solution an intense red coloration, thus proving the presence of iron in the ferric condition. It is obvious that the claimed superiority of Three Chlorides over preparations containing ferric iron is absurd. Since it contains iron in the ferric condition, Three Chlorides decomposes soluble iodids with the liberation of free iodine. The assertion that it is a suitable "vehicle" for the administration of iodids is likely to lead the physician unwittingly to administer free iodine.

As the laboratory report shows, the "formula" of Three Chlorides (Henry) is incorrect, for protochlorid of iron (ferrous chlorid) was absent from the preparation. There is, however, a more serious objection to the formula than the misstatement of fact. When the physician is dealing with conditions that call for mercury, arsenic or iron, it is irrational and unscientific to prescribe a preparation containing these three drugs in fixed proportions.

OBJECTIONABLE ADVERTISING

Three Chlorides is marketed in bottles having the name "Three Chlorides" blown in the glass, in a carton containing a circular extolling the curative powers of this and

other proprietaries of the same concern. Thus a physician who prescribes Three Chlorides is likely to place in the hands of his patient the advice that

"Three Chlorides . . . is suitable for the prolonged treatment of children . . ."

"In tertiary syphilis, with or without potassium iodide, it holds first rank among remedies directed against the specific taint . . ."

Further, that "Maizo-Lithium" is:

"A Genito-Urinary Sedative" and a "remarkable uric-acid solvent."

Also that "Satyria" is:

"An Ideal Genito Tonic and Nerve Reconstituent."

"Indicated in Prostatic trouble, Cystitis, Urethritis, Gonorrhea, Gleet, Leucorrhea, Sexual Debility and Impotence."

We are told that

"As a hematinic, the protochloride of iron justifies the confidence of the medical profession."

"The protochloride, more than any other salt of iron, stimulates the paptic [*sic*] and hydrochloric glandular system of the stomach, increasing the flow of acid gastric juice."

It is unnecessary to discuss the truth or falsity of these assertions, since Three Chlorides does not contain the protochlorid of iron. For the same reason, it is obvious that the small amount of iron which it contains is the only possible justification for the claim that the preparation is

" . . . Non-Productive of . . . Constipation or Teeth Discoloration."

It is hardly necessary to point out that it is a therapeutic exaggeration to claim that Three Chlorides is of particular value in the treatment of tertiary syphilis, that in eczema it is "the most effective remedy," that in any form of constipation it is "the remedy par excellence," or that

"After arresting malarial attacks with quinine, the combination of iron, arsenic and mercury with calisaya is an essential requisite."

"Whenever gastric troubles and digestive disturbances furnish a contra-indication to iron, this contra-indication disappears when the iron is combined with arsenic."

"The simultaneous exhibition of small doses of arsenic and bichloride of mercury, besides augmenting the effect of iron upon the red blood-cells, completely obviates the tendency to vascular congestion and hemorrhage."

Finally, the suggestion that by the use of Three Chlorides iodids may be prevented from causing iodism is absurd.

In short, whatever may be the advisability of prescribing iron, arsenic or mercury in any given case, it is irrational to prescribe them in fixed proportions. A physician who is induced by the exaggerated advertising claims to prescribe these drugs in a proprietary mixture, under a non-informative name, does grave injustice to his patients.

Maizo-Lithium

Maizo-Lithium (Henry Pharmacal Co., St. Louis) is one of the many proprietary lithium preparations based on the disproved theory that lithium dissolves uric acid deposits in the body. The label on a trade package states that:

"Maizo-Lithium promptly facilitates the elimination of the uric and phosphatic deposits from the system."

As might be expected, the promoter of Maizo-Lithium ascribes a long list of ills to "uric and phosphatic deposits," and argues that, therefore, Maizo-Lithium is the proper treatment:

"In lithemia, hematuria, incipient diabetes, cystitis, urethritis, pyelitis and ALL inflamed conditions requiring a non-irritating diuretic."

"Inflamed conditions," naturally, include almost all of the real or imaginary ills of kidney, bladder, etc.

Maizo-Lithium is distinguished from its congeners chiefly by the claim that it contains a mythical or problematical compound, maizenate of lithium.

LABORATORY REPORT

The following report on the composition of Maizo-Lithium has been submitted by the Chemical Laboratory of the American Medical Association:

The promoter of Maizo-Lithium makes the following statement on the label concerning the composition of the preparation:

"Each fluid drachm contains two grains maizenate of lithium."

The following is also found in a circular which is enclosed with the trade package of Maizo-Lithium:

"Maizo-Lithium, the remarkable uric acid solvent, is a nascent chemic union of maizenic acid, obtained from green corn silk, with the alkaline base lithium forming maizenate lithium, of which the mother liquid carries two grains to each drachm."

Standard works on organic chemistry and pharmacology, such as Beilstein's *Organische Chemie* and Cushny's *Pharmacology and Therapeutics*, do not mention maizenic acid. Neither is it mentioned in comprehensive bibliographies of phyto-chemical investigations, such as Huseman-Hilger's *Die Pflanzenstoffe* or Wehmer's *Die Pflanzenstoffe*. The first to use the term appears to have been a Dr. Vautier (*Arch. méd. belg.*), but his publication is not available to the laboratory. Rademacher and Fischer (*Amer. Jour. Pharm.*, 1886, lviii, 369) claim to have isolated the substance from green corn-silk, but the record of their work is unsatisfactory and indefinite and therefore their results could not be verified; it seems unlikely, however, that they isolated a pure proximate principle.

Examination of Maizo-Lithium demonstrated the absence of bromids, chlorids, phosphates, sulphates, acetates, ben-

zoates, salicylates and tartrates—combinations in which lithium might be expected to be present. The presence of a citrate, however, was shown by the usual tests. Lithium and sodium were present. Free acid was absent. Determination of lithium citrate and of sodium citrate indicated the presence of a total of about 3.7 gm. of these two salts in each 100 c.c. of the preparation, or about 2.1 grains in each fluidram. About 25 per cent. of the total salts appeared to be lithium citrate. The examination, therefore, does not demonstrate the presence of "maizenate of lithium," but does show that Maizo-Lithium contains a mixture of lithium citrate and sodium citrate. Tests for citric acid and citrates were made on a commercial specimen of fluidextract of corn-silk. The results were negative, although the preparation had an acid reaction to litmus. The presence of maizenate of lithium in Maizo-Lithium—in fact, its actual existence—thus failed of demonstration. In view of this fact, it was felt that the burden of proof rested on the promoter of Maizo-Lithium to supply some satisfactory evidence with regard to this substance. The following letter was therefore, sent to James F. Ballard:

"According to the label on a recently purchased bottle of Maizo-Lithium, each fluidram of this preparation contains 2 grains of 'maizenate of lithium.' From an examination made in this laboratory we are inclined to conclude that this statement is not in accordance with the facts. A search of chemical and pharmaceutical publications does not reveal that such a compound as 'maizenate of lithium' has ever been isolated and described, and we are very much inclined to question its existence. We should be pleased to receive from you any evidence which you may care to send in substantiation of your claim in regard to the content of 'maizenate of lithium' in Maizo-Lithium—particularly a specimen of 'maizenate of lithium' or the method by which it is produced."

While this letter was sent Oct. 13, 1914, no evidence has been submitted up to date (January, 1915) to substantiate the asserted presence of maizenate of lithium in Maizo-Lithium.

The report just given shows that the manufacturer has found it expedient to surround his worthless nostrum with a cloak of mystery. A discussion of the jumble of uncritical claims, baseless assertions and evident falsehoods presented in favor of Maizo-Lithium would seem a waste of time when the secrecy of this nostrum is all-sufficient for its condemnation.

[EDITORIAL NOTE.—When the Council on Pharmacy and Chemistry was started we announced that we did not see any clear line of demarcation between "patent medicines" and many so-called "ethical proprietaries." Time has not caused us to change our opinion. As we have already shown, and as we shall have occasion to show in the future, not a few of the "ethical proprietaries" offered to physicians are being advertised by those who are pushing the rankest of "patent medicines." The three preparations mentioned

above are sold—and presumably manufactured—by Mr. Ballard, of St. Louis. Mr. Ballard is the promoter of Ballard's Snow Liniment, Brown's Iron Bitters, Herbine, Dr. Herrick's Vegetable Liver Pills, Swaim's Panacea, Renne's Pain Killing Oil, etc. He is also the promoter of Campho-Phenique, exposed in *THE JOURNAL* some eight years ago.¹ The spectacle is not an edifying one. A manufacturer with one hand offers the public a profusion of cure-alls, while with the other he endeavors to foist on the medical profession preparations which are just as fraudulent. Some day our profession will awake to the disgrace of it all. It will also awake to the fact, which should have been evident ere this, that the nostrum business would cease if physicians would refuse to accept into their offices, even as a gift, the nostrum-promoting medical journals that live off this trade. Fraudulent "patent medicines" will continue to thrive just so long as newspapers will publish "patent medicine" advertisements; fraudulent "ethical proprietaries" will continue to exist just so long as medical journals will advertise such proprietaries. As the better class of newspapers are rejecting "patent medicine" advertising on their own volition, so are the better class of medical journals rejecting advertisements of fraudulent proprietaries. Some newspapers will continue to carry nostrum advertising until their subscribers raise a protest that will cause the business department to take notice; so, too, some medical journals will continue to share the profits with the nostrum exploiters until an outraged medical profession repudiates such publications.].—(*From The Journal A. M. A., Feb. 6, 1915.*)

THIALION

Report of the Council on Pharmacy and Chemistry

The following report was submitted to the Council by a subcommittee which examined Thialion (Vass Chemical Company):

To the Council on Pharmacy and Chemistry:—We beg leave to report on Thialion as follows:

Thialion is sold by the Vass Chemical Co., Danbury, Conn. In the literature supplied to physicians and in the advertisements in medical journals, Thialion is stated to be "a laxative salt of lithia" with the chemical formula " $3\text{Li}_2\text{O}.\text{NaO}.\text{SO}_3.7\text{HO}.$ " "Sodio-trilithic anhydrosulphate" is given as a synonym. An elaborate graphic or structural formula is also given.

According to analyses, this preparation is a mixture consisting chiefly of sodium sulphate and sodium citrate with

1. *THE JOURNAL A. M. A.*, April 20, 1907, reprinted in "Propaganda for Reform," 8th Edition.

very small amounts of lithium, the average of several estimations indicating the following composition:

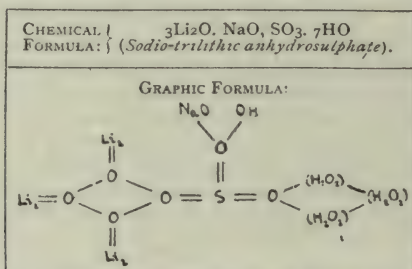
Sodium citrate	58.6
Sodium sulphate, anhydrous.....	26.6
Sodium chlorid	3.3
Lithium citrate, anhydrous.....	1.8
Water	9.7

Thus, the advertising literature is a deliberate misrepresentation of the facts. It is, therefore, recommended that the preparation be refused recognition, and that this report be published.

The recommendations of the subcommittee were adopted by the Council and in accordance therewith the above report is published.

W. A. PUCKNER, Secretary.

In publishing the above report, the Council is presenting to the medical profession another object lesson, and one that illustrates how easily our profession is being humbugged. There are several things that we may learn from the report on this nostrum, but at this time we will take up only one phase of the lesson. Many of the scientific chemical com-



This picturesque "graphic formula" for Thialion appears with many of the advertisements. To most of us it looks formidable, wonderfully and deeply scientific and non-understandable; to a chemist it looks absurd.

pounds and derivatives given us by the German chemists have been distinct advancements and have proved to be valuable additions to our therapeutic agents; further, they were received with so much favor by physicians that they have been profitable for those who made them. It is not strange, therefore, that imitators should appear. One of the first was our old friend, Antikamnia (which was introduced as a "new synthetical" compound). This was followed by Ammonol, Phenalgin, Salacatin, and a host of others having acetanilid as their principal ingredient.

But there are hundreds of other so-called "new chemical" compounds among the "ethical" proprietaries on the market aside from the acetanilid mixtures. These wonderful compounds, by the mysterious union of their ingredients, possess therapeutic properties different from, or more powerful for good than the drugs from which they are made. At least,

this is what we are told, and this is what many believe or they would not sell so well.

There is another factor worth noticing connected with this subject: When to the claim that the mixture is a "chemical compound" is added a complex chemical formula, it prevents the impertinent question, "What is it?" For isn't the "formula" there, and is not the information given without the asking? Most of us have been so overcome by the display of the chemical knowledge of the nostrum maker that we have been afraid to expose our ignorance by asking for information or explanation. And thus the promoter avoids perplexing questions, which, if answered truthfully, would spell bankruptcy.

To a chemist the formula of Thialion furnished by the Vass Chemical Company signifies nothing. To a physician who possesses but little knowledge of chemistry, it will seem impressive, and he may absorb the idea that it stands for a preparation that is the result of exhaustive scientific research. To the chemist, this formula will appear as a jumble of symbols and numbers that mean nothing.

It is not worth while to call attention to the simplicity of this simple mixture of ordinary salts, for it is too self-evident. As to the remarkable therapeutic qualities of Thialion, the reader is referred to that ably edited "scientific" periodical, the *Uric Acid Monthly*, and to the mass of "literature" relating to this wonderful remedy.

While there is a ridiculous side to this business, there is also a serious one. Those who have been making money out of us undoubtedly laugh in their sleeves at our gullibility, but to us as members of a presumably learned and intelligent profession, it is not a laughing matter. The whole nostrum business is a shame and a disgrace.—
(Modified from *The Journal A. M. A.*, Nov. 3, 1906.)

UNGUENTUM SELENIO VANADIC (V. ROEMER)

Report of the Council on Pharmacy and Chemistry

Unguentum Selenio Vanadic (v. Roemer) is an ointment manufactured by A. von Roemer, Brooklyn, N. Y., and put on the market by Schering and Glatz, New York. It is claimed to contain 1 per cent. of selenium oxycyanid and 1 per cent. of vanadium chlorid "so prepared and incorporated into a modified lanolin base as to insure complete absorption." The preparation is recommended in the later stages of inoperable carcinoma, sarcoma, epithelioma and other malignant tumors, as a substitute for morphin and other narcotics to control pain, as a modifying (ante-operative) treatment in the middle stage of malignant cases presenting the characteristics of being inoperable, and as a prophylactic treatment of recurrences and metastases following excision of malignant tumors.

It is also recommended for use in slow-healing surgical wounds, abscesses, tuberculous and mixed septic and gangrenous processes, etc., in lupus, acne, eczema, psoriasis, scabies, erythemata, adenomata, angiomata, papillomata, etc. The use of the ointment is further recommended by systemic inunction in septicemia, pneumonia, erysipelas, cerebrospinal meningitis, septic rheumatism, septic neuritis, etc. The Council voted that the preparation be not accepted for inclusion with New and Nonofficial Remedies because no evidence has been submitted that the vanadium and selenium are absorbed or that they produce any of the effects claimed.

When the preceding report was sent to Schering and Glatz, the firm expressed surprise that evidence of the absorption of selenium and vanadium should be requested. On June 8 the firm wrote that within a few days one or more tests would be sent by which the presence of selenium and vanadium in the urine could be demonstrated. These tests were not received. So far (November, 1914) no evidence of the value of the preparation either in carcinoma or in any of the very long list of other diseases in which it is recommended has been submitted, and, the pharmacologic evidence that such a preparation would be of value in such conditions being practically *nil*, the Council authorized publication of this report.—(From *The Journal A. M. A.*, Nov. 21, 1914.)

UNICORN ROOT, WILD YAM AND WILD INDIGO

Report of the Council on Pharmacy and Chemistry

The Council has voted that recognition be refused to the following: Unicorn Root (*Aletris farinosa*), Wild Yam (*Dioscorea villosa*), and Wild Indigo (*Baptisia tinctoria*) and has authorized the publication of the following statements.

W. A. PUCKNER, Secretary.

Unicorn Root—*Aletris Farinosa*

Unicorn Root (*Aletris farinosa*) contains a bitter principle and starch. Remarkable powers as a uterine tonic have been ascribed to it but have not been realized by reliable observers, the drug being practically valueless in these conditions. It enters into the composition of a number of nostrums. As a bitter it is superfluous and it should not be included among non-official drugs.

Wild Yam—*Dioscorea Villosa*

Wild Yam (*Dioscorea villosa*) has been little used in medicine. It contains a saponin and an acrid resin, and is said to possess expectorant, diaphoretic and—in large doses—emetic properties. It has been recommended as a remedy in biliary colic and in muscular rheumatism. Its value in such conditions has not been verified to an extent entitling it to consideration as a useful remedy.

Wild Indigo—*Baptisia Tinctoria*

Wild Indigo (*Baptisia tinctoria*) has been in use—chiefly by the eclectics—for about three-quarters of a century, but there is no satisfactory evidence that it has any therapeutic value. The following text-books on pharmacology do not even mention wild indigo: Cushty, Brunton, Dixon, Binz, Sollmann. It is not official in the United States or other leading pharmacopeias.

A preparation of wild indigo is advertised with extravagant claims for its therapeutic action, but these claims are not supported by any substantial evidence. Other virtues ascribed to wild indigo are its properties as a cardiac and hepatic stimulant and its value in sepsis, particularly in typhoid fever. It actually has emetic and cathartic properties, but even these are inferior to those possessed by many other drugs.

It is very evident that a drug possessing the extraordinary merits that have been claimed for wild indigo would not have remained unnoticed by the leading authorities on pharmacology and therapeutics, especially after its prolonged use in medicine. Owing, therefore, to the lack of substantial evidence of its usefulness, baptisia is not considered as of sufficient importance to warrant its inclusion in the list of non-official drugs. It is probably entirely superfluous.—(*From The Journal A. M. A., Jan. 22, 1910.*)

PROPRIETARY VANADIUM PREPARATIONS

Report of the Council on Pharmacy and Chemistry on
Products of Vanadium Chemical Co.: Vanadiol,
Vanadioseptol, Phospho-Vanadiol,
Vanadoforme, etc.

Vanadiol and preparations thereof, the products of the Vanadium Chemical Company, were submitted to the Council. After thorough investigation it was concluded that the company has not, and never has had, any reliable evidence for the therapeutic claims it has presented to the medical profession regarding these products. Accordingly the Council voted that the several products under consideration be not accepted for inclusion with New and Nonofficial Remedies. The findings of the Council having been submitted to the Vanadium Chemical Company and its reply considered, the Council authorized publication of the report which appears below.

W. A. PUCKNER, Secretary.

The Vanadium Chemical Company, Pittsburgh, Pa., submitted to the Council on Pharmacy and Chemistry for inclusion in New and Nonofficial Remedies the following products: Vanadiol, Vanadioseptol, Phospho-Vanadiol, Vanadium Solution for Intravenous and Hypodermic Use

and Vanadoforme. At the same time, the company submitted statements and "literature" regarding the composition and therapeutic value of these products. The committee to which the matter was referred, after carefully considering both the matter presented and certain modifications in the advertising matter to which the company consented, reported that the evidence, especially that relating to the therapeutic value of the preparations, was insufficient to warrant the acceptance of the articles. Since the validity of therapeutic claims can be determined to a certain extent by experimental investigation, the Council decided to postpone final action until sufficient dependable evidence as to the therapeutic value had been submitted.

Accordingly, a series of questions was sent to the Vanadium Chemical Company for the purpose of learning on what pharmacologic evidence the therapeutic claims were based. After waiting several months, the information requested not being furnished, the Council took final action on the products. This action was based both on the evidence originally submitted and on the advertising matter being sent out by the company at the time.

Briefly, Vanadiol is said to contain a compound of vanadium with oxygen and chlorine, which gives up its oxygen to readily oxidizable substances, such as the blood. In addition to this compound it contains an oxidizing agent (sodium chlorate) which is said to serve as a source of oxygen, so that, according to the theory of the promoters, Vanadiol acts in the animal system as an oxygen-carrier.

The following is quoted from an advertising circular:

"Most thorough and conclusive physiological tests were made on guinea-pigs and other animals, which established undoubted evidence as to the truth of this theory.

"INFLUENCE

"Under the influence of Vanadiol and the other derivatives, the appetite is increased, there is greater ability to peptonize ingested proteid material, and, through the improvement in the assimilative powers and the checking of abnormal fermentations, leads to an increase in weight. A greater excretion of urea follows their use. Phagocytic action is promoted by an increase in the leucocytes. All phases of the elimination of waste materials are favored by the positive increase in the number of red blood corpuscles and the percentage of hemoglobin, hematogenesis being thereby rendered more perfect. The beneficial effect of nascent (active) oxygen, upon the red corpuscles and upon tissue cells of low vitality are matters of common knowledge. The results obtained from the vanadium derivatives are not drug effects, but are due to improved metabolism, which in turn is due to the removal of microbial toxins, and the general stimulation of cell activity.

"In a tubercular organism, the action of Vanadiol is two-fold. First, it acts as an antiseptic and antitoxin, combating the Koch bacilli and neutralizing their poison. Second, as a reconstituent of the economy, to which it furnishes nascent oxygen, fortifying the defenseless cells by the very element that is necessary to make them healthy and resistant."

"In Anemia and Chlorosis, the blood cells lack oxygen, and in Neurasthenia the nerve cells are deficient. Vanadiol brings both blood

and nerve cells from a condition of weakness and decay into vital energy, by furnishing them with active oxygen in a manner that had not been possible by any other medicine."

"Vanadiol accelerates the work of digestion by producing HCl in small doses; it does not hinder the peptonization of albuminoids as do beta-naphthol, salicylic acid, boric acid, etc., when used as a stomachal antiseptic, but on the contrary it favors, by hydrochloric acid, the transformation of albuminoids into peptone without the assistance of pepsin. Thus, Vanadiol, when given to consumptives, favors the digestion of large amounts of proteid materials and causes oxidation of toxins of the stomach. The stomachic action is reflected in other parts of the organism by the stimulation of the chief functions; the pulse becomes stronger and muscular strength increases; and, last, but of greatest importance, is the tremendous increase which will be noted in the hemoglobin and the red cell count."

"Phospho-Vanadiol, a combination of Vanadiol with an easily assimilable organic phosphorus, is an active accelerator of general nutrition with a special action on the nervous system."

Such remarkable statements as these are past credence, certainly, unless they are supported by scientific evidence. And evidence, either in support or in contradiction of the claims made, could be obtained; for many of these actions, at least, are capable of proof by animal experimentation. The Vanadium Chemical Company was asked to furnish such proof but failed to do so. The inference is plain! The committee has concluded that the company has not, and never has had, any reliable evidence on which to base the therapeutic claims it has presented to the medical profession.

Here another fact should be noted. It is the connection shown in *THE JOURNAL*, June 22, 1912, of the general manager of the Vanadium Chemical Company, F. M. Turner, with a fraudulent obesity cure concern, the Dr. Turner Company of Syracuse, N. Y.

It seems, moreover, by all the evidence available, that F. M. Turner is not authorized to use the title M.D.; yet, under this title his name appeared on cards representing the Vanadium Chemical Company and under this title, also, he published an article in a medical journal recommending to the medical profession the use of Vanadiol. Later this article was distributed as an advertising circular by the Vanadium Chemical Company. Turner's connection with the Dr. Turner Company is known and acknowledged by the Vanadium Chemical Company, yet it still retains him as general manager!

While there is not necessarily any direct relation between the personnel of a proprietary manufacturing company and the value of that company's product, it is natural that the medical profession should view with distrust any concern managed by one who has previously been connected with such a fraud as the Turner obesity cure.

The committee therefore recommends that the preparations of the Vanadium Chemical Company be refused recognition, and that this report be authorized for publication.—
(From *The Journal A. M. A.*, Jan. 18, 1913.)

VENARSEN

Report of the Council on Pharmacy and Chemistry

The report which appears below was sent to the Intravenous Products Company for consideration. Having considered the firm's reply, the Council has authorized publication of its report along with the explanation sent by the Intravenous Products Company in reference to the variable composition reported for Venarsen, namely, that "only the first few experimental ampoules, sent to the doctors for clinical tests, were made without the Mercuric Iodide."

W. A. PUCKNER, Secretary.

This product is prepared by the Intravenous Products Company, Denver. The advertising circulars contain inconsistent statements as to its composition. According to one circular Venarsen is

"... a comparatively non-toxic organic arsenic compound, 0.6 Gm. representing 247 Mg. ($3\frac{3}{4}$ grains) of metallic arsenic in chemical combination. . . ."

According to another circular Venarsen is

"... a comparatively non-toxic organic arsenic compound, 0.6 Gm., representing 247 Mg. ($3\frac{3}{4}$ grains) of metallic arsenic and .78 Mg. ($\frac{3}{250}$ grain) metallic mercury in chemical combination."

Neither one of these statements gives any information as to the actual composition of the product. Inquiry addressed to the manufacturers elicited the reply that:

"Venarsen contains in each 5 c.c. 0.6 Gm. Sodium Dimethyl Arsenate, .0016 grams of Mercuric Iodide, .0048 grams of Sodium Iodide in solution in a suitable vehicle for intravenous administration."

The following report of the examination of Venarsen is submitted by the Association's Chemical Laboratory:

LABORATORY REPORT

Three ampules of Venarsen were examined. The first ampule was labeled

"A comparatively non-toxic organic arsenic compound, representing 247 Mg. ($3\frac{3}{4}$ grs.) of metallic arsenic in chemical combination. 5 c.c. — 0.6 Gm."

Practically the same statement appeared in an advertising circular wrapped around the ampule. The second and third ampules bore labels identical with the first. The circulars differed from that accompanying the first ampule in that the presence of mercury is also announced, thus:

"Venarsen is a comparatively non-toxic organic arsenic compound, 0.6 Gm., representing 247 Mg. ($3\frac{3}{4}$ grains) of metallic arsenic and .78 Mg. ($\frac{3}{250}$ grain) metallic mercury in chemical combination and is so prepared and enhanced as to present the ingredients to the blood in their most acceptable form."

Thus, although the potent elements said to be contained in Venarsen are named, its chemical character (the combination in which the elements occur) is not disclosed.

The ampules contained a transparent, odorless solution, possessing the yellow color of salvarsan solution (an aqueous solution of sodium cacodylate, mercuric iodid and sodium iodid in the amounts said to be present in Venarsen is colorless). Qualitative tests demonstrated the presence in each of the three ampules of sodium cacodylate (sodium dimethyl arsenate), and the absence of arsenites, arsenates, phosphates, arsanilates (atoxyl, soamin) and arsenphenolamins (salvarsan, neosalvarsan). Titrated with normal hydrochloric acid, using methyl orange as indicator (as outlined in New and Nonofficial Remedies, 1915, p. 40), the three ampules were found to contain the equivalent of respectively, 0.219, 0.253 and 0.216 Gm., or an average of 0.244 Gm. arsenic. (According to statements of the firm each 5 c.c. of Venarsen contains 0.6 Gm. sodium dimethyl arsenate [sodium cacodylate], equivalent to 0.247 Gm. arsenic or 41.66 per cent. Sodium dimethyl arsenate, as described in New and Nonofficial Remedies, contains 3 molecules of water and 35 per cent. arsenic. This indicates that the sodium dimethyl arsenate used in Venarsen contains less water of crystallization than the N. N. R. product).

Neither mercury nor iodid could be found in the first ampule. (The company has since explained that mercury was absent only from the first experimental samples.) The second and third ampules contained iodid and mercury in small amount. The exact quantity was not determined because, on the basis of the mercury content declared, a single accurate mercury estimation would have required the purchase of something like 25 to 100 ampules. As each ampule sells for two dollars, the cost of the material was considered prohibitive.

From the foregoing we conclude that the first ampule examined consisted essentially of a solution containing 0.625 Gm. of sodium cacodylate, N. N. R., while the second and third ampules contained 0.722 Gm. and 0.617 Gm. sodium cacodylate, respectively, and in addition, a mercury compound, probably mercuric iodid, dissolved by sodium iodid.

In other terms, Venarsen as now marketed is a simple solution containing approximately 9 grains of sodium cacodylate, 1/40 grain of mercury "biniodide" and 3/4 grain of sodium iodid to each full dose.

In the past the preparation has been in conflict—especially serious because of the potent character of the drug—with Rule 1 (secrecy of composition). The manufacturers have removed this conflict by furnishing a statement of composition; and it is to be expected that they will likewise take steps to remove the manifestly erroneous impression now likely to be gathered from the circulars, namely, that the preparation is rather analogous to salvarsan. These conflicts, however, call for comment, since physicians have doubtless used the material under misapprehensions.

As to therapeutic claims, the preparation is said to be effective and safe in syphilis; "lower toxicity and greater spirochaetacidal power than other known arsenic compounds" are among the claims. No real evidence for either of these claims is presented. Sodium cacodylate has been tried as an antisypilitic, but with indifferent success; certainly the results have not been comparable to those of salvarsan. The mercury could conceivably enhance its effect, but the dosage appears too small and the course too short for this influence to be pronounced. Moreover, a careful physician would not give arsenic and mercury in fixed proportions.

The claim of comparative non-toxicity is probable enough from what is known about the cacodylate. No physician should feel "safe," however, when injecting intravenously 0.6 gm. of sodium cacodylate every four to six days. Aside from the grave dangers of intravenous injection in general, the possibility of idiosyncrasies to arsenicals should always be borne in mind.

Finally, Venarsen is claimed to be "indicated" in pellagra, tuberculosis, anemia, etc. No evidence is presented on which to base an opinion as to its efficiency in pellagra. Those who have studied that disease would not be likely to resort to this treatment. In tuberculosis and anemia, there is no sufficient advantage in giving the cacodylate intravenously.

To summarize, Venarsen treatment consists essentially in the intravenous injection of large doses of sodium cacodylate. The other ingredients, as well as the name, merely constitute so much mystification. While the cacodylate probably has some effect on the conditions for which it is advised, there is no evidence that its value even approaches that of salvarsan in syphilis, or that the intravenous use is preferable to the ordinary methods. The dangers are manifest, although they may not be so great as with salvarsan. No justification has been established for its use in tuberculosis and pellagra.

Physicians who wish to try intravenous cacodylate administration should have a full realization of the dangers of such treatment, and in order to avoid further risks, will do well to refrain from combining other drugs with the cacodylate in fixed proportions.

It is recommended that Venarsen be held in conflict with Rule 6 (unwarranted therapeutic claims), Rule 7 (poisonous ingredients not stated on label), Rule 8 (name does not express the chemical composition) and Rule 10 (unscientific combination) and that this report be published.—(*From The Journal A. M. A., May 22, 1915.*)

VENODINE

Report of the Council on Pharmacy and Chemistry

Venodine (The Intravenous Products Co., Denver), according to information sent to the Council, is "an Intravenous

Iodine Compound" put up in ampules each of which contains "28 grains of Sodium Iodide, $\frac{1}{8}$ grain each of Beechwood Creosote and Guaiacol in a suitable vehicle, and excipients to enhance its compatibility with the circulating blood."

The "Therapeutic Indications" include "infectious diseases, such as syphilis, tuberculosis, bronchitis, bacteraemias associated with chronic and acute nephritis (Bright's disease), and other infections." The Council held as unwarranted and grossly exaggerated the following therapeutic claims: (1) that the full therapeutic value of iodine medication cannot be readily obtained except by intravenous injection; (2) that Venodine is "of exceptional value in tuberculosis"; (3) that in pneumonia Venodine "combines the anaesthetic properties of creosote and guaiacol with the germicidal value of iodine"; (4) that "Venodine (or its iodine component) has long enjoyed an exceptional reputation" as of great value in many infectious diseases including bacteremias. The facts on these points are the following:

1. Since iodids are easily absorbed from the mucous membrane of the gastro-intestinal tract and are usually well tolerated by the stomach, there is no reason for resorting to intravenous injection in their administration.

2. The indiscriminate administration of iodids for pulmonary tuberculosis is strongly to be condemned. The cases in which they can be given to tuberculous patients without doing harm must be very carefully selected.

3. There is no evidence either that creosote is excreted by the lungs in sufficient quantity to exert an anesthetic influence or that iodine is present in the circulation of the lungs or in the bronchial secretions in a form which is capable of exerting any germicidal action whatever.

4. It is generally held that the systemic administration of iodine compounds in bacteremias is useless.

The Council also held the name "Venodine" objectionable in that it fails to indicate the chief ingredient (sodium iodide) of this simple pharmaceutical mixture. The statement in a circular that "Venodine is a sterile solution representing 1.54 Gm. (24 grains) of iodine in chemical combination together with creosote and guaiacol" is likely to lead physicians to use the preparation without considering that its chief constituent is the well-known substance sodium iodide, particularly so since no reference to sodium iodide is made in the circular.

Furthermore, the Council held that the combination of two such similar substances as creosote and guaiacol (the second a constituent of the first) as given in the published formula, stamps Venodine as unscientific; it adds mystery to the preparation, but does not increase its efficiency, and is therefore against the best interests of the public.

The Council voted that Venodine be held ineligible for conflict with Rules 6, 8 and 10.

This report having been submitted to the manufacturers, in accordance with the Council's custom, and the reply affording no reason for modifying the findings, its publication has now been authorized.—(*From The Journal A. M. A., June 26, 1915.*)

VERACOLATE *

Report of the Council on Pharmacy and Chemistry

"Veracolate (plain)," "Veracolate with Pancreatin and Pepsin" and "Veracolate with Iron, Quinine and Strychnine" are proprietary tablets marketed by the Marcy Company, Boston.

"*Veracolate (plain).*"—For this the following non-quantitative formula is given:

"A compound containing the bile acids, sodium glycocholate, sodium taurocholate with cascara sagrada and phenolphthalein."

The dose is three tablets. Examination in the Chemical Laboratory of the American Medical Association of a specimen of "Veracolate (plain)" indicated that there was about 20 mg. ($\frac{1}{3}$ grain) of phenolphthalein to each tablet. One dose, therefore (three tablets), would contain 1 grain of phenolphthalein—an average dose.

"*Veracolate with Pepsin and Pancreatin.*"—The following "formula" is given for this mixture:

"Veracolate	1 $\frac{1}{4}$ grain
"Pure Pancreatin	1 grain
"Pepsin aseptic (1:3,000).....	$\frac{1}{2}$ grain
"Oil peppermint	$\frac{1}{10}$ min."

(Note the presence of two mutually incompatible digestive ferments.)

"*Veracolate with Iron, Quinine and Strychnine.*"—This is stated to have the following "formula":

"Veracolate	1 $\frac{1}{2}$ grain
"Reduced Iron	1 grain
"Quinine Sulphate	$\frac{3}{8}$ grain
"Strychnine Sulphate.....	$\frac{1}{100}$ grain"

It will be noticed that these mixtures increase in complexity until a combination of seven diverse ingredients, a veritable shotgun mixture, is evolved. In none of the "formulas" are the proportions of the purgative drugs in Veracolate stated. In the second "formula," the digestants might as well be omitted, for the pancreatin is destroyed by peptic digestion and hence cannot pass the stomach while the pepsin is useless without hydrochloric acid, and, at any rate, of no value in the intestine. If one is indicated, the other is

* For report on a similar compound, see Taurocol, p. 198.

not. Yet this unscientific and complex combination of purgatives, mutually incompatible digestive ferments, and oil of peppermint is called:

"A scientific Blending of Digestive Ferments, Cholagogues and Carminatives."

". . . for all forms of indigestion and dyspepsia."

And the third, an equally irrational and complex combination, is termed "The Ideal Cholagogic Tonic"!

Extravagant and Misleading Claims.—True to type, the claims are magnified in accordance with the number of ingredients. For instance, of "Veracolate (plain)," we are told:

"Veracolate is a true cholagogue and biliary disinfectant as it *directly* stimulates the liver cells producing an increased flow of limpid bile. Although not a purgative, it moves the bowels and is definite and dependable in its action."

"The action of Veracolate is to bring about a profuse flow of healthy bile which prevents bile stasis. As the flow of bile is stimulated so antiseptic action ensues, calculi softened and the concretion and mucous eliminated. Mucosal swelling is diminished and the infection which is usually present is antagonized. Relief is in plain evidence. As a result of the treatment the skin, eyes and urine become normal in appearance in a short time, the appetite and digestion improve and soreness in the region of the gall-bladder is entirely relieved."

Similarly, it is said of "Veracolate with Pancreatin and Pepsin" that:

"It causes a natural flow of bile which checks fermentation, prevents the absorption of toxins and causes the food elements to be emulsified and thus rendered easy of assimilation. All this conduces to a natural movement of the bowels. Digestion is at once improved and the epigastric pain, nervous symptoms and headache disappear."

"Veracolate with Iron, Quinine and Strychnine" is said to be indicated in:

"Hepatic Torpor accompanied by Anemia, Chlorosis, Debility, Neurasthenia and Neuroses."

And the physician is asked to believe that it will:

". . . give gratifying results in all *nervous, anemic*, and 'run down' conditions in which the liver function is usually subnormal."

The objections to "Veracolate (plain)" are that it is semi-secret in composition, unscientific in combination and exploited under unwarranted claims. The same criticisms hold with reference to "Veracolate with Pancreatin and Pepsin" and "Veracolate with Iron, Quinine and Strychnine."

These products are discreditable to the medical and pharmaceutical profession alike and their use is against the public good. The Council therefore refused recognition to Veracolate and its preparations.—(*From The Journal A. M. A., April 24, 1915.*)

HAYDEN'S VIBURNUM COMPOUND *

Report of the Council on Pharmacy and Chemistry

The following report on Hayden's Viburnum Compound was prepared by a member of the Council's Committee on Therapeutics. The Council held the preparation in conflict with its rules and authorized publication of the referee's report.

W. A. PUCKNER, Secretary.

Hayden's Viburnum Compound, according to the advertising circulars, was first compounded in 1860 by W. R. Hayden. The medical profession is told that W. R. Hayden

" . . . found by his experiments that a combination of the active principles of *Viburnum Opulus*, *Dioscorea Villosa*, combined with aromatics, proved a valuable remedy for *Spasmodic Dysmenorrhea*."

As in 1860 W. R. Hayden was not a physician (he received a diploma from the Eclectic Medical College, New York, in 1867), and, so far as we can learn, he was not a pharmacist or chemist, one wonders what kind of "experiments" he made. Hayden's Viburnum Compound is put on the market by the New York Pharmaceutical Company of Bedford Springs, Mass. The name of this concern may sound imposing, until it is realized that it is merely a trade name adopted by Hayden in exploiting his nostrum.

The advertising matter formerly claimed that *Scutellaria* (skull-cap) was one of the ingredients of Hayden's Viburnum Compound. As this is no longer mentioned, it is fair to assume that even the manufacturer does not consider the composition to be of vital importance. Stress is laid on the superior efficacy of *viburnum opulus* in the conditions for which the preparation is recommended; it is emphasized that it is *viburnum opulus*, and not *viburnum prunifolium*, that is the important ingredient of Hayden's Viburnum Compound. The label, in accordance with the requirements of the Food and Drugs Act, declares that the preparation contains 50 per cent. alcohol. The claim is made:

"It is free from all narcotics and leaves no unpleasant after-effects."

The medical profession is told that Hayden's Viburnum Compound is a remedy in:

"Hysteria, Bilious Colic, Cramps of Cholera Morbus, Muscular Cramps, . . . Nervous Diseases of Pregnancy, Threatened Abortion, Post-Partum Pains, Puerperal Convulsions, Rigid Os, Dysmenorrhea, Menorrhagia."

DISCUSSION OF ALLEGED INGREDIENTS

Viburnum Opulus (*Cramp Bark*).—Botanists and pharmaceutical chemists declare that this drug has not been on the American market for many years, if ever, and that the drug

* See also report on *Dioiviburnia*, p. 141, and article on *Viburnum Compound* and *Other Nostrums*, p. 409.

used and even described as *viburnum opulus* is really the bark of another plant. *Viburnum opulus* and its preparations are therefore to be dropped from the next United States Pharmacopeia. The principal constituents of *viburnum opulus* are stated to be a glucosid, viburnin, a bitter resin, and a little tannin, with small amounts of earthy carbonates and phosphates and organic acids (Culbreth, Ed. 4, 1906, p. 591). The glucosid and resin being bitter, the drug might have a slight stomachic action (if, indeed, any such effect is actually produced by "bitters"); the small amount of tannin might make it slightly astringent; its fruit acids (citric and malic) might make it slightly diuretic. Even if *viburnum opulus* were present in Hayden's *Viburnum Compound* there is no clinical or laboratory proof that it, if given alone—without alcohol or other drug—has any anti-spasmodic or nervous sedative action.

Dioscorea Villosa (*Wild Yam*).—This drug contains a saponin and an acrid, irritant resin. It has never been proved clinically or experimentally that this drug has any action whatever except that its irritant resin might, if taken in sufficient quantity, cause irritation of the stomach and vomiting.

Aromatics.—The irritation produced by concentrated aromatics causes increased peristalsis and consequently may, if there is no obstruction, relieve intestinal stasis and intestinal colics. Therefore, a preparation containing large amounts of aromatics, especially if given in hot water, would have practically the same effects in the "cramps of a cholera morbus" or other forms of acute diarrhea as a home-brewed cup of spiced tea—and no more.

Alcohol.—This drug is a muscle relaxant, and sufficient doses might, by relieving spasm, relax a muscularly contracted os uteri and relieve post-partum pains. Alcohol dilates the blood-vessels both in the abdomen and on the surface of the body. It may thus either relieve uterine bleeding by lowering the blood-pressure and causing more blood to go to other parts, or increase uterine bleeding by relieving arterial and muscle spasm. Alcohol is also a habit-forming narcotic (Hayden's *Viburnum Compound* is advertised as "free from all narcotics"!) and when habitually used by either males or females tends to impair the capacity to produce normal offspring.

Even if the manufacturer's "formula" be accepted, Hayden's *Viburnum Compound* contains no therapeutically active ingredient except alcohol and aromatics. The recommended dose of this preparation is ". . . two teaspoonfuls in six of boiling hot water or milk and one teaspoonful of sugar, every fifteen or twenty minutes until relief is obtained."

"Frequently after taking the Viburnum Compound the patient will sleep soundly for several hours from the sudden cessation of pain; in such cases she should never be awakened through any fear of oversleeping, as Hayden's Viburnum Compound does not contain any narcotic whatever, nor does it leave any disagreeable after-effects, and it may be given to a child when necessary without any special caution."

Read the foregoing and then remember that it means that one teaspoonful of alcohol (the equivalent of two teaspoonfuls of whisky) is to be given in hot water, every fifteen or twenty minutes until relief is obtained and the patient is asleep. Why not use plain language and say "until she is drunk"?

The thoughtful physician would consider it decidedly unwise to give alcohol to a young girl, to a prospective mother, or to a young mother, except under extraordinary circumstances. He would know that the menstrual pains for which this preparation is recommended are likely to be recurrent, and that the repeated taking of alcohol for recurrent pain is fraught with danger—the danger of initiating the alcohol habit. If, however, a physician does elect to give alcohol as a drug, he must let the conditions that govern each individual case determine whether it is not better to give it as whisky, or to disguise it in a prescription of his own. Above all the physician should be conscious that he is giving the drug, alcohol; and this is not the case when he prescribes a ready-made nostrum. If he writes a prescription containing whisky or other alcoholic he will take measures to avert the dangers inseparable from the use of this drug.

CONCLUSIONS

1. Even if the manufacturer's formula for Hayden's Viburnum Compound be accepted, it is apparent that any therapeutic activity the preparation may have is due essentially to the alcohol and aromatics.

2. Alcohol is a narcotic drug, and a habit-forming drug. Physicians ordering this preparation may, by so doing, be initiating the alcohol habit.

3. Whatever result is obtained by the use of Hayden's Viburnum Compound in the treatment of uterine or pelvic disturbances, is due to the alcohol it contains. The fact that menstrual pains are likely to recur might, when this preparation is relied on, become a factor in the formation of the alcohol habit.

4. Whatever result is obtained by the administration of Hayden's Viburnum Compound in the treatment of gastrointestinal disturbances is due to the alcohol and the aromatics it contains.

5. Whisky has the same alcoholic content (50 per cent.) as Hayden's Viburnum Compound; the dangers in the use

of whisky are well known and its value as a therapeutic agent is being questioned more and more every year.

Holding the exploitation of this proprietary a danger to the public and a detriment to scientific medicine, the referee recommends publication of this report as a protest against such irrational therapeutics. The profession should recognize that most, if not all, of the preparations recommended for painful menstruation and for all kinds of pelvic pain contain large percentages of alcohol, and that whatever physiologic effect is produced is, for all practical purposes, due to the alcohol.—(*From The Journal A. M. A., Jan. 23, 1915.*)

VIN MARIANI

Report by Council on Pharmacy and Chemistry—With Comments Thereon

This preparation was assigned to a subcommittee of the Council and the following is an abstract of the report of the committee:

Samples of Vin Mariani and of the literature distributed by the manufacturers were examined.

It appears that the beverage or medicine known as "Vin Mariani" is a preparation of red wine, apparently imported from Bordeaux, and fortified, in this country, by an alcoholic preparation of coca leaves or other parts of the coca plant.

The committee considered first, the character of the red wine as imported. A sample received from the port of New York, March 10, 1905, from Henry Clausel & Co., Bordeaux, and consigned to Mariani & Co., on analysis was found to have the following composition:

Specific gravity	0.9959
Alcohol by volume.....per cent.	10.99
Extract	2.279
Volatile acids	0.0914
Ash	0.2801
Reducing sugar	trace.
Pol. direct	—0.8
Pol. invert	—0.7
K.So.....M. per liter	0.092

A sample of Vin Mariani, as bought in the open market in an original package, has also been analyzed and found to have the following composition:

Specific gravity	1.0125
Alcohol by volume.....per cent.	16.15
Extract	8.602
Ash	0.277
Glycerin	0.444
Volatile acid	0.0747
Tartaric acid	0.2400
Alkaloids (coca bases).....per cent.	0.0250
Cane sugar	2.35
Reducing sugar	3.38

The increased alcoholic strength of Vin Mariani over the Bordeaux wine from which it is made, as shown by this analysis, doubtless comes from the alcohol extract

containing the coca bases, as already stated. Approximately 6 per cent. of sugar is also added to the wine. Judging from the analysis, therefore, Vin Mariani corresponds to a mixture of an alcoholic preparation of coca leaves and ordinary Bordeaux red wine, with the addition of about 6 per cent. of sugar.

Vin Mariani conflicts with Rule 5, which requires that "No article will be admitted or retained, concerning which the manufacturer or his agents make misleading statements as to geographical source, raw material from which made, or method of collection, or preparation," by stating in the advertising literature that: "The United States government, under the Pure Food Law of March 3, 1903, further emphasizes all previous analyses of Vin Mariani by admitting Mariani's wine as absolutely pure and unadulterated."

Whatever may have been the intent of the above statement, its effect is to deceive. The conjunction of the terms "Vin Mariani" and "Mariani's wine" can only be construed as meaning the same thing. Inasmuch as it does not appear that Vin Mariani is imported into this country, it would not have been possible for the United States government to inspect it, and as to the wine obtained from Henry Clausel & Co., from Bordeaux, it is not in any sense Mariani's wine except that of ownership. It is the opinion of the committee that this phrase can only result in deception and the construction of the language strongly favors the supposition that it is intentionally meant to deceive.

This false claim is practically repeated in the other pamphlets published by the Vin Mariani Company, although not always in the same words.

This preparation also conflicts with Rule 6, which states that "No article will be admitted or retained of which the manufacturer or his agents make unwarranted, exaggerated or misleading statements as to therapeutic value," in that the firm's letter-heads have printed on them the following:

"Vin Mariani purifies the blood stream, strengthens the circulation, stimulates muscular fiber and nerve tissue, is a respiratory stimulant, strengthens the heart muscles, and is an emergency food in the absence of all other nutriment. Successfully employed as an adjuvant in anemia, debility, diseases of the chest, nervous troubles, muscular or mental overstrain, neurasthenia, and allied conditions, and in certain cases of protracted convalescence."

The committee believes that Vin Mariani is intended as a beverage rather than as a medicine.

The report concludes:

"The committee recommends, therefore, that Vin Mariani be refused recognition and that this report be published in full or in part."

In accordance with this recommendation the above extract of the report is herewith published.

W. A. PUCKNER, Secretary.

VIN MARIANI MADE IN THIS COUNTRY

According to the above report, Vin Mariani as imported is simply an ordinary cheap French wine, the preparation sold in this country as Vin Mariani being compounded in this country. Yet the advertising literature, the label on the bottle, etc., state directly or indirectly that it is a French preparation. Until recently—presumably until the vendors realized that the truth regarding this point would come out—the advertisements in medical journals contained an analysis made by a chemist in Paris. The shape of the bottle, the character of the printed matter accompanying the bottle, etc., are evidently intended to convey the impression that it is imported. So far, then, as this point is concerned, Vin Mariani is sold under gross misrepresentations and is a fraud.

VIN MARIANI NOT A COCAINE PREPARATION

Regarding the Illinois State Law regulating the sale of Cocaine, it is a pleasure again to have verified in official form, that Vin Mariani is not a cocaine preparation and that the law in no way covers or applies to it. This decision recently rendered is based upon analyses made by Chemists of high professional standing, at request of the Illinois authorities, and confirmed by investigations of the Ohio Pure Food Commission, and confirmed by the Board of Health at New York.

GUARANTEED UNDER THE FOOD AND DRUGS ACT, JUNE 30, 1906; SERIAL NO. 440

VIN MARIANI

[MARIANI WINE]

A COMPOUND OF FRENCH BORDEAUX WINE WITH A SPECIAL PREPARATION OF BLENDED VARIETIES OF ERYTHROXYLON COCA

SEVENTEEN PER CENT. ALCOHOL by Volume. Each Ounce represents ONE-TENTH OF ONE GRAIN OF COCAINE.

Vin Mariani is prepared and bottled at our New York Laboratory

MARIANI AND COMPANY

PARIS, FRANCE: 41 Boulevard Haussmann

NEW YORK: 52

VIN MARIANI IS MADE AT OUR LABORATORY IN NEW YORK CITY. IT IS OF
ATIVE CUSTOMS TARIFF IT IS OF
THE SAME BRAND AS THE

Advertisements of Vin Mariani before and after national Food and Drugs Act went into effect.

ADVERTISED TO THE PUBLIC

Vin Mariani was at one time advertised to the public in this country, but, so far as we know, it is not at the present time; at least, not directly. Yet it is most effectively advertised to the public indirectly, and this with little expense to the promoters, the cost of the circular around the bottle being the only expense—doctors who prescribe it do the rest. If those who are in the habit of prescribing Vin Mariani will examine the advertising that goes into the hands of their patients they will realize how true it is that our profession is responsible for much of the “patent-medicine” taking. Few laymen could withstand the temptation to buy the stuff for any ailment that comes along when

they read in the circular that this "medicine," which their doctor evidently thinks is a good thing, is so highly recommended, for all the ills that befall us mortals, by the Pope of Rome, the Czar and the Czarina of Russia, the Queen of England, the Shah of Persia, the King of Norway and Sweden, the Queen of Portugal, the Queen of Saxony, the Crown Prince of Cambodia, Ferdinand of Bulgaria, and by a whole list of ambassadors, generals, politicians, musicians, actresses, etc. The testimonials of these great men and women are enough to convince the most skeptical that this remarkable medicine will do everything but raise the dead—and under favorable circumstances accomplish even this. And still more—it will win battles! Witness this from the governor-general of Madagascar: "We were refreshed by Vin Mariani, and before morning carried the stronghold." Alexander Dumas and Emile Zola are credited with calling it "the elixir of life." One very strange thing about the testimonials in the circular used in this country is that all are written by foreigners. But Americans (President McKinley—think of it—among others) are honored by having their testimonials quoted in the circulars used on the other side of the Atlantic. Why? Is it possible that the testimonials are fakes?

AN ETHICAL CURE-ALL

Here are a few of the conditions that the circular says Vin Mariani is good for: "Anemia, winter cough, debility, vocal weakness, la grippe, continued fevers, bronchitis, nervous troubles, muscular weakness, diseases of the aged, malaria, melancholia, overwork, neurasthenia, impotence, malnutrition, depression, heart troubles, wasting diseases, mental overstrain, and in certain cases of protracted convalescence."

The following quotations are taken from blotters—circulated in this country—which are evidently intended for the laity, as well as for physicians:

"Vin Mariani creates and sustains vigor and energy. Guards against wasting diseases. When everything else has failed try it to prove merits."

"Lung, Throat and Stomach Troubles benefited by Vin Mariani; this Ideal French Tonic strengthens entire system of Body, Brain and Nerves."

"Most Efficacious, Most Agreeable, Unequaled by anything in Fortifying, Strengthening, Refreshing."

WHY BLAME THE LAYMAN FOR USING NOSTRUMS?

Can we blame the layman for using Peruna, Wine of Cardui, etc., simply because they are advertised, when there are physicians who, for the same reason, prescribe concoctions that are just as quackish and just as useless? And can editors of medical journals consistently find fault with newspapers for carrying advertisements of fraudulent

"patent medicines" when they themselves admit to their pages advertisements of nostrums that are no less fraudulent and of no more value?

MEMBER OF PROPRIETARY ASSOCIATION

One word more: There is an organization known as the Proprietary Association of America, but it is usually referred to in common parlance as the "patent-medicine" men's association. It will be remembered that last year we printed a list of the members of this body, among which was the Vin Mariani Company. It will be remembered also that in the list were the names of certain firms who were supplying medicines to physicians, but practically all these resigned from membership and their resignations were published by us. We have not had the pleasure of publishing the resignation of the Vin Mariani Company. On the contrary, we note that at the last annual meeting of the "patent-medicine" men's association this firm was still an active member, Mr. A. L. Jaros, who stands for the Mariani Company in this country, being one of those registered at the meeting.—(*From The Journal A. M. A., Nov. 26, 1906.*)

VIROL

Report of the Council on Pharmacy and Chemistry

Virol, sold in the United States by the Etna Chemical Company, is put out by Virol, Ltd., London, England. It is said to be

"A preparation of bone marrow, red bone marrow of medullary structure of ox rib and calf bones, eggs, malt extract, and lemon syrup made from fresh fruit."

"Marrow fat is emulsified with extract of malt, lemon syrup and eggs, it is further enriched with soluble phosphates of lime, iron and soda, and glycerine solution of red bone marrow."

Many of the therapeutic claims made for Virol the Council considered grossly exaggerated; among them are the following:

"... a complete food for children."

"... a complete nutrient."

"The value of the Lime-Salts (representing the Egg Shells) contained in Virol is fully illustrated in its influence upon Rickets; whilst Struma, Chronic Bronchitis, Anaemia and Influenza are all combated by its use in a degree, which, we venture to say, has never been approached."

"The fat, as represented by the Marrow-bone and Egg Yolk, is so minutely divided that it admits of even far more rapid absorption by the *villi* of the intestine than milk."

"It is an ideal form of food, readily digested and assimilated in the weakest of conditions."

"Virol has a marked effect on the metabolism of the body, increasing the production of opsonins and stimulating phagocytosis. As an adjuvant to the natural defensive processes of the patient in all diseases of bacterial origin its value can scarcely be over-estimated."

The objections of the Council were transmitted to Virol, Ltd. The firm's reply was reported to the Council by the referee of the Committee on Therapeutics who held that no

adequate or satisfactory answer had been made to the objections raised against the advertising claims for Virol.

The claims made for Virol being unsubstantiated and unwarranted, the Council voted that the preparation be refused recognition.

In accordance with the practice of the Council, the exploiters of Virol were afforded an opportunity to comment on the foregoing statement before its publication. On their objecting to the findings, the entire matter was turned over to a second referee. This referee, in making his report, reviewed the claims made for Virol and commented on the lack of evidence to substantiate these claims. He stated that a chemical analysis of the preparation had yielded the following result:

"Sugar, as maltose	60.0 per cent.
"Fat	13.2 per cent.
"Proteins	3.2 per cent.
"Ash	1.6 per cent.
"Water and volatile matter.....	21.6 per cent.

"There is no appreciable diastatic action. A little glycerol is present in the volatile matter. The preparation is therefore an extract of malt with fat and a small amount of protein."

He then continues:

"That Virol has food value cannot be denied, but that it has sufficient value to warrant the claims of the manufacturers is not evident. Virol cannot be considered a complete food, as the advertising literature reiterates, or an ideal food for infants. The amount of protein is far too low in comparison with the carbohydrates to warrant this view. The dosage recommended is not large. Thirty gm. a day would furnish only about 1 gm. of protein and 4 gm. of fat. The 3 teaspoonfuls a day recommended for children would furnish protein and fat even below this.

"If employed alone it cannot be a complete or sufficient food, and if employed along with other articles of diet—milk and bread, for example—it is not easy to see wherein lies the efficacy of the small weights of fat and protein added in the form of Virol. Here the demand made on our credulity is too great, as the protein in the preparation is the familiar protein of eggs, meat and malt, and the fat largely that from the egg-yolk and marrow, according to the claims. It is not known that any specific virtues reside in these bodies, or in the egg-shells, also claimed as present.

"In the opinion of the present referee there is nothing in the composition of Virol to justify the claims made for it. The judgment and recommendations of the first referee follow from the facts and must be accepted by the Council."

The Council directed that the previously prepared report be allowed to stand and that it be published along with a suitable reference to the report of the second referee.—
(*From The Journal A. M. A., Feb. 20, 1915*).

PART II

CONTRIBUTIONS FROM THE CHEMICAL LABORATORY

ANUSOL HEMORRHOIDAL SUPPOSITORIES*

W. A. Puckner and L. E. Warren

An abstract of an article concerning "anusol suppositories" was published in *THE JOURNAL*, Jan. 23, 1909. This gave the results of an analysis by a foreign chemist, J. F. Suyver, which were to the effect that "anusol suppositories" contained no "anusol." Schering & Glatz, the American agents for "anusol" suppositories, took exceptions to the abstract, asked that *THE JOURNAL* retract, and submitted the findings of a chemist in support of their claim that the suppositories do contain "anusol." To determine the composition of "anusol hemorrhoidal suppositories" as they are found on the American market, trade packages were purchased (April 6, 1909) and submitted to examination¹ in the Association's laboratory.

According to the claims of the manufacturers, 12 suppositories contain:

"Anusoli	7.5 grams.
"Zinc oxid	6.0 grams
"Balsam Peruv	1.5 grams
"Ol. theobrom	19.0 grams
"Ungt. cerat.....	2.5 grams"

Calculated to percentages the formula reads:

Anusoli	20.54 per cent.
Zinc oxid	16.44 per cent.
Balsam Peruv.....	4.11 per cent.
Ol. theobrom.....	52.06 per cent.
Ungt. cerat.....	6.85 per cent.

When this product was submitted to the Council some time ago, Schering & Glatz stated that, according to the manufacturer, "anusol" is the "iodo resorcin sulphonate of bismuth, having the following rational formula: $[C_6H_2ISO_2O(OH)_2]_3Bi$. In the meta-dioxybenzol $C_6H_4(OH)_2$, the resorcin, one H has been replaced by one I, and for another H the sulfonic-acid group SO_2-OH has been substituted, so that meta-dioxybenzol is transformed into $C_6H_2ISO_2-OH(OH)_2$. In the sulfonic acid the H of OH is replaced by Bi and, as Bi is trivalent the above rational formula results."

* See also Anusol Suppositories, p. 280.

1. Details of the quantitative analysis of "Anusol Hemorrhoidal Suppositories" appear in the annual report for 1909 of the Chemical Laboratory of the American Medical Association.

According to this formula "anuso!" should contain:

Iodin	32.99	per cent.
Sulphur	8.34	per cent.
Bismuth	18.07	per cent.

And the "anuso!" suppositories should contain:

Iodin	6.77	per cent.
Sulphur	1.71	per cent.
Bismuth	3.71	per cent.

Examination showed that the suppositories contain about 0.08 per cent. iodine, or 1.2 per cent. of the amount claimed; 0.28 per cent. sulphur, or 16.3 per cent. of what is claimed; 0.71 per cent. bismuth, or 19 per cent. of what is claimed; and zinc equivalent to 16.5 per cent. zinc oxide, or about 100 per cent. of claim.

From the standpoint of the iodine content alone, assuming that all of the iodine found is present in the form of "anuso!," the results of the examination of the product (as found on the American market) verifies, for all practical purposes, Suyver's statement that "anuso! suppositories contain no anuso!," for the quantity of iodine present is so minute (about $\frac{1}{82}$ of that required by the formula) as to be unworthy of serious consideration. The presence of sulphide in appreciable amounts was demonstrated showing that the sulphur is present, at least in part, in the form of sulphide and not as sulphonate as is claimed. In a measure, too, this is in accord with the findings of Suyver, who concluded that, in the product which he examined, the bismuth was present in the form of sulphide. The proportions of sulphur and of bismuth (respectively about $\frac{1}{6}$ and $\frac{1}{6}$ of the required amounts) indicate still further that the product is not all that it is claimed to be.

A specimen submitted by Schering & Glatz to the Council two years ago contained 0.99 per cent. iodine, or 1.3 per cent. of the amount claimed; 0.23 per cent. sulphur, or 13.4 per cent. of the claimed amount; and 0.52 per cent. bismuth, or 14 per cent. of what is claimed by the formula. Since the above determinations were made another specimen of Anuso! Hemorrhoidal Suppositories was received from Schering & Glatz, July 16, 1909. This sample was found to contain about: 0.075 per cent. iodine, or 1.1 per cent. of the amount required by the formula; 0.265 per cent. of sulphur, or 15.5 per cent. of the requirement and 0.88 per cent. bismuth, or 23.7 per cent. of the required amount. It will thus be seen that the composition of the oldest specimen and also that of the specimen recently sent, corresponds in a general way to that of the one first examined.

Whether judgment be based on the determination of the bismuth, the sulphur or the iodine, the results just given clearly show that the claims made concerning the composition of "Anuso! Hemorrhoidal Suppositories" are not substantiated by the facts.—(*From The Journal A. M. A., Oct. 2, 1909.*)

AROMATIC DIGESTIVE TABLETS

W. A. Puckner and L. E. Warren

It has been amply demonstrated¹ that pepsin and pancreatin, when in solution, mutually destroy each other; if the solution be acid, the pepsin destroys the pancreatin; if alkaline, the pancreatin destroys the pepsin. By using the characteristic effect of pepsin on proteids in acid medium and that of pancreatin on proteids and starches in an alkaline solution it can readily be demonstrated that commercial liquid preparations labeled as containing both of these ferments actually contain only one ferment. They are misbranded.

Besides the liquid a goodly number of solid preparations, chiefly tablets, containing pepsin and pancreatin are offered to the profession. Among these are tablets consisting simply of pepsin and pancreatin. Since pepsin and pancreatin interact only when in solution, it is quite possible to prepare tablets which contain these ferments. The use of such tablets is, however, unscientific, since one or the other of the ferments is destroyed when it comes in contact with the fluids of the digestive tract. In addition to simple tablets containing pepsin and pancreatin only there is at present a host of "digestive tablets" on the market. Among these are some which must be classed with the "digestive impossibilities" (Reports of the Council on Pharmacy and Chemistry, 1910, Vol. 1, p. 41). The preparations referred to are tablets claimed to contain pepsin, pancreatin, diastase, hydrochloric acid and lactic acid. When it is considered that the United States Pharmacopeia defines hydrochloric acid as "a liquid composed of 31.9 per cent. by weight of absolute hydrochloric acid ($\text{HCl} = 36.16$) and 68.1 per cent. of water," i. e., a solution of hydrogen chlorid, a gas, in water, it would at first appear that the incorporation of any appreciable quantity of hydrochloric acid in tablets would be impracticable. Hydrochloric acid, however, possesses to a limited extent the property of combining loosely with protein substances so that it becomes possible to bring about its combination with pepsin and similar substances to form compounds which are relatively stable at ordinary temperatures. Because of the volatility of the free acid and its limited combining power with protein substances (100 gm. boiled beef combine with 2 gm. absolute hydrochloric acid²), the quantity of acid in any tablet can never be large, much less than sufficient to be of any therapeutic value.

A number of firms offer "digestive tablets" for sale having formulas of which the following may be considered typical:

1. U. S. Pharmacopeia, 8th revision, p. 334.

2. Hemmeter, Diseases of the Stomach, Edition 3, p. 250.

Sacch. Pepsin.....	4	grains
Pure Pancreatin.....	1	grain
Diastase	$\frac{1}{4}$	grain
Aromatic Powder.....	$\frac{1}{4}$	grain
Lactic Acid.....	$\frac{1}{8}$	grain
Hydrochloric acid.....	$\frac{1}{8}$	grain

Some manufacturers use United States Pharmacopeia pepsin in place of the saccharated article; others do not give the exact quantities of hydrochloric acid which their product is supposed to contain, but make use of the indefinite expression "q. s.;" still others state merely that hydrochloric acid is present, but make no claim whatever concerning the quantity.

From purely theoretical considerations it is possible that the tablets referred to might contain appreciable amounts of hydrochloric acid. Since the formulas for some of the tablets furnish no information concerning the content of hydrochloric acid, it seemed worth while to determine the quantity, if any, actually present in some of the tablets on the market. Accordingly a trade package of "digestive aromatic tablets," as put up under the label of each of six American manufacturers, was purchased and submitted to examination in the Association laboratory.

Qualitative tests made on specimens from each brand of tablets demonstrated the absence of uncombined hydrochloric acid in each. Further tests³ showed that hydrochloric acid in protein combination was present essentially in the amounts claimed in three of the specimens. In two of the others hydrochloric acid was entirely absent; in the remaining one only the merest traces of hydrochloric acid could be found.

H. K. MULFORD COMPANY
"DIGESTIVE AROMATIC"

"Pepsin, Sacch.....	4	grains
"Pancreatin	$\frac{1}{2}$	grain
"Diastase	$\frac{1}{16}$	grain
"Acid Lactic.....	$\frac{1}{8}$	grain
"Acid Hydrochloric.....	$\frac{1}{8}$	grain
"Aromatic Powder.....	$\frac{1}{4}$	grain
"Dose: 1 or 2 tablets."		

In the above formula each tablet is said to contain $\frac{1}{8}$ grain hydrochloric acid. This amount is equivalent to 0.002584 gm. ($\frac{1}{25}$ grain) absolute hydrochloric acid. Analysis demonstrated that each tablet contains about 0.00267 gm. hydrochloric acid (absolute HCl) or essentially the amount claimed. The average dose of diluted hydrochloric acid United States Pharmacopeia is 1 c.c., equivalent to 0.1049 gm. absolute hydrochloric acid. To obtain this quantity from the above preparation the patient would be required to swallow more than three dozen of the tablets.

3. Details of this analysis appear in the annual report for 1910 of the Chemical Laboratory of the American Medical Association.

WM. S. MERRELL CHEMICAL COMPANY
"DIGESTIVE AROMATIC, 5 GRAINS"

"Pepsin	80 parts
"Pancreatin	10 parts
"Diastase	1 part
"Acid Lactic	1 part
"Acid Hydrochloric.....	3 parts
"Aromatic Powder	5 parts"

Calculation shows that each tablet should contain about 0.0031 gm. of absolute hydrochloric acid. The analysis indicated that each tablet contains about 0.0030 gm. hydrochloric acid (absolute HCl) in protein combination, or practically the amount claimed. One pharmacopeial dose of hydrochloric acid is contained in 35 of the tablets.

PARKE, DAVIS & COMPANY
"DIGESTIVE AROMATIC"

"Saccharated Pepsin.....	4 grains
"Pure Pancreatin.....	1 grain
"Diastase	$\frac{1}{4}$ grain
"Aromatic Powder.....	$\frac{1}{4}$ grain
"Lactic Acid.	
"Hydrochloric Acid.	
"Dose: 1 to 3 tablets."	

Chlorid is present in small amounts, but quantitative examination indicated that hydrochloric acid, either free or in protein combination is absent. An ammonium salt is present in small quantities.

SHARP & DOHME
"DIGESTIVE AROMATIC"

"Pepsin, Sacch., U. S. P.....	4 grains
"Pancreatin, pure.....	1 grain
"Diastase	$\frac{1}{4}$ grain
"Aromatic Powder.....	$\frac{1}{4}$ grain
"Lactic Acid.....	q. s.
"Hydrochloric Acid	q. s."

Small quantities of chlorid are present. Quantitative examination indicated that hydrochloric acid in protein combination is present only in very small amounts, each tablet containing but about 0.00034 gm. of absolute acid, or about 0.34 per cent. of the pharmacopeial dose. Ammonia is absent. Inasmuch as more than 300 of these tablets would be required to furnish a pharmacopeial dose of hydrochloric acid, this firm's interpretation of the expression "q. s." would prove interesting.

TRUAX, GREENE & COMPANY
"SYNERGIA"

"Synergia" is claimed to be composed of "pepsin, pancreatin, veg. diastase, lactic acid, hydrochloric acid and aro-

Sacch. Pepsin.....	4	grains
Pure Pancreatin.....	1	grain
Diastase	$\frac{1}{4}$	grain
Aromatic Powder.....	$\frac{1}{4}$	grain
Lactic Acid.....	$\frac{1}{8}$	grain
Hydrochloric acid.....	$\frac{1}{8}$	grain

Some manufacturers use United States Pharmacopeia pepsin in place of the saccharated article; others do not give the exact quantities of hydrochloric acid which their product is supposed to contain, but make use of the indefinite expression "q. s.;" still others state merely that hydrochloric acid is present, but make no claim whatever concerning the quantity.

From purely theoretical considerations it is possible that the tablets referred to might contain appreciable amounts of hydrochloric acid. Since the formulas for some of the tablets furnish no information concerning the content of hydrochloric acid, it seemed worth while to determine the quantity, if any, actually present in some of the tablets on the market. Accordingly a trade package of "digestive aromatic tablets," as put up under the label of each of six American manufacturers, was purchased and submitted to examination in the Association laboratory.

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H. K. MULFORD COMPANY
"DIGESTIVE AROMATIC"

"Pepsin, Sacch.....	4	grains
"Pancreatin	$\frac{1}{2}$	grain
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PARKE, DAVIS & COMPANY
"DIGESTIVE AROMATIC"

"Saccharated Pepsin.....	4 grains
"Pure Pancreatin.....	1 grain
"Diastase	$\frac{1}{4}$ grain
"Aromatic Powder.....	$\frac{1}{4}$ grain
"Lactic Acid.	
"Hydrochloric Acid.	
"Dose: 1 to 3 tablets."	

Chlorid is present in small amounts, but quantitative examination indicated that hydrochloric acid, either free or in protein combination is absent. An ammonium salt is present in small quantities.

SHARP & DOHME
"DIGESTIVE AROMATIC"

"Pepsin, Sacch., U. S. P.....	4 grains
"Pancreatin, pure.....	1 grain
"Diastase	$\frac{1}{4}$ grain
"Aromatic Powder.....	$\frac{1}{4}$ grain
"Lactic Acid.....	q. s.
"Hydrochloric Acid	q. s."

Small quantities of chlorid are present. Quantitative examination indicated that hydrochloric acid in protein combination is present only in very small amounts, each tablet containing but about 0.00034 gm. of absolute acid, or about 0.34 per cent. of the pharmacopeial dose. Ammonia is absent. Inasmuch as more than 300 of these tablets would be required to furnish a pharmacopeial dose of hydrochloric acid, this firm's interpretation of the expression "q. s." would prove interesting.

TRUAX, GREENE & COMPANY
"SYNERGIA"

"Synergia" is claimed to be composed of "pepsin, pancreatin, veg. diastase, lactic acid, hydrochloric acid and aro-

advisable, in the interests of the profession, to determine the nature of the preparation. Its examination was accordingly taken up in the laboratory of the American Medical Association.

From the analysis, we conclude that Burnham's Soluble Iodin is a solution of iodine in alcohol made miscible with water by the presence of some iodide. Wilbert¹ and other investigators have arrived at practically the same conclusion.

Whatever the secret process, hinted at in the advertisements, by which this preparation is evolved, the fact remains that when one prescribes Burnham's Soluble Iodin, one is prescribing iodine, together with an iodide, the nature of which is hard to determine. The iodide is not present as potassium iodide, nor, entirely, at least, as hydrogen iodide (hydriodic acid), but this is of slight importance compared with the fact that it is a solution in alcohol of free iodine and an iodide, and therefore is essentially the same as Lugol's solution.

The amount of iodine found corresponds approximately to 3 gm. of free iodine and 2 gm. of combined iodine in 100 c.c. of the solution. Lugol's solution contains 5 gm. free iodine, and 10 gm. potassium iodide in 100 c.c.

BURNHAM'S SOLUBLE IODINE TABLETS

Burnham's Soluble Iodine Tablets are light brown compressed tablets, stamped with the letters B. S. I. in monogram. Each tablet is said to contain 3 minims Burnham's Soluble Iodine.

The average weight of each tablet was found to be 0.3526 gm.; since Burnham's Soluble Iodine was found to have a specific gravity of .8527 and to contain 4.5 per cent. total iodine, the tablets should contain approximately 2.3 per cent. total iodine, about one-half to two-thirds of which, depending on the condition of the "Soluble Iodine" from which they are made, should be free iodine. Instead of this, only 0.317 per cent. free iodine and 1.57 per cent. total iodine was found. Analysis shows that Burnham's Soluble Iodine tablets contain approximately one-fourth the amount of free iodine and approximately two-thirds the amount of total iodine which should be contained therein if, in accordance with the label, each tablet contains 3 minims of Burnham's Soluble Iodine.

COMMENT

The literature put out by the Burnham Soluble Iodine Company is in itself enough to condemn the products it advertises. The much emphasized statement of the company that

"Something had to be done; and Burnham's Soluble Iodine is that which has been done"

1. Proc. Am. Pharm. Assn., 1903, li, 409.

fulfils, in its blatant assertiveness, all the requirements of nostrum advertising. The results of the analyses are not, therefore, a surprise.

Secrecy is just as essential today to the successful exploitation of this class of proprietaries as it was before the demand for formulas became so universal. The requirement of publicity is evaded, therefore, in one of two ways: Either a formula is given which is false, or at least meaningless, or else the claim is made that the method of preparing the product is a unique and remarkable secret that is possessed only by the manufacturers. The Burnham Soluble Iodin Company uses the latter device.

Meanwhile, physicians will be perfectly justified in viewing with suspicion all claims based on such conspicuously unscientific premises, more especially so when these claims fail to find substantiation on careful and painstaking analyses. In brief, whenever the physician wishes to administer free iodine, Lugol's solution (*Liquor Iodi Compositus*, U. S. P., *Physician's Manual*, page 84) is an inexpensive and perfectly available preparation.—(*From the Journal A. M. A., March 28, 1908.*)

"HYDROCYANATE OF IRON—TILDEN"

W. A. Puckner and W. S. Hilpert

Among the many inquiries received regarding the composition of secret remedies was one in reference to "Hydrocyanate of Iron" manufactured by the Tilden Company, New Lebanon, N. Y. This preparation is advertised as being "unexcelled as a remedy for epilepsy, hysteria, chorea, neurasthenia, locomotor ataxia, neuralgia, migraine, anemic headaches, and all convulsive or reflex neuroses dependent on impairment of the brain or spinal cord." It is also said to be "valuable in uterine reflex neuroses due to congestion; in amenorrhea due to anemia and chlorosis and suppressed menstruation."

The term "hydrocyanate of iron" is an unfamiliar one and is not found in any available reference work on chemistry. Thinking that the term might have been loosely applied to ferrocyanid of iron, or Prussian blue (a compound once suggested for epilepsy, but long ago considered useless), the correspondent wrote to the manufacturers asking if such were the case. The Tilden Company answered:

"... our preparation Hydrocyanate of Iron is not Prussian blue in any sense of the word. Prussian blue has no curative properties as applied to all forms of epilepsy. Prussian blue is Ferrocyanid of Iron while our preparation is Hydrocyanate of Iron."

The only statements in the Tilden Company's advertising matter regarding the composition of hydrocyanate of iron are the following:

"Hydrocyanate of Iron (Tilden's) is a correct and scientific combination of well known principles."

"Hydrocyanate of Iron (Tilden's) combines well known properties of ferruginous salts with the sedative action of Hydrocyanic acid."

The last statement would lead one to expect the presence of available iron and cyanogen ions. In fact, the inference to be drawn from all the company's "literature" is that "hydrocyanate of iron" is a definite chemical compound in the same sense as is ferrocyanid of iron, and that inference is still further borne out in the letter to our correspondent. This being the case, the Tilden Company was again written to and asked for the chemical formula of "hydrocyanate of iron," with the following result:

"Replying to your inquiry regarding the formula of Hydrocyanate of Iron we beg to state the composition of this preparation is a trade secret and we therefore do not care to furnish the desired information."

This reply verified the opinion already formed that "hydrocyanate of iron" is a secret preparation. Its analysis was then taken up in the Association's laboratory.

EXAMINATION OF THE TABLETS

The product appears on the market in cartons said to contain one ounce of one-grain tablets. On the cartons, in addition to the name of the preparation and the name and address of the manufacturers, are the names of diseases for which it is recommended. The tablets, in the specimens analyzed, were dark blue, rather hard and slightly bitter in taste and had an average weight of 0.1382 gm., or about 2 grains. They were found to be practically insoluble in water and dilute mineral acids; aqueous oxalic acid solution partially dissolved them, yielding a blue solution. Boiling with alkali hydroxid solution decomposed the tablets, yielding iron in an insoluble form and a solution of alkali ferrocyanid, as demonstrated by the appearance of a deep blue precipitate on the addition of ferric chlorid solution. The portion insoluble in alkali when boiled with hydrochloric acid yielded a solution containing iron, approximately equivalent to 50 per cent Prussian blue. These properties are all characteristic of Prussian blue, and, taken together, identify Prussian blue as a constituent of "hydrocyanate of iron (Tilden)." The insoluble residue from the iron determination possessed the properties and constituents of talc and constituted practically one-half of the tablets. Extraction of the tablets with chloroform or ether in the presence of ammonium hydroxid yielded a small amount of organic material which contained bodies having the properties of, and responding to tests for, quinin or cinchona alkaloids and caffen. The presence of a salicylate was also indicated.¹

1. Details of the quantitative analysis of "Hydrocyanate of Iron—Tilden" appear in the annual report for 1909 of the Chemical Laboratory of the American Medical Association.

From the analysis it is concluded that "hydrocyanate of iron (Tilden)" is essentially a mixture of approximately equal parts of talc and Prussian blue, containing traces of organic matter having the general properties of alkaloids.

COMMENT: When a firm exploits an abandoned remedy for so hopeless a disease as epilepsy under a name not known to chemistry and with a false representation of its pharmacologic qualities, such action may rightly be assumed to show ignorance or worse. "Hydrocyanate of iron," if it means anything, means the cyanid of iron, but the preparation put out under that name is, according to our chemists, not cyanid of iron, but the ferrocyanid of iron commonly known as Prussian blue. This substance has been tried for epilepsy and abandoned. Yet the firm recommends it as a "peerless remedy" for this disease:

"The Tilden Company holds the key to the situation in the treatment of epilepsy. We have the remedy that does the work."

Not that epilepsy is the only disease for which this hypothetical chemical compound may be prescribed. Torticollis has been "successfully treated with hydrocyanate of iron." In chorea, we are told "a richer and better blood supply" should be furnished the nervous and vascular system and "the irritation of the motor centers" must be allayed.

"Hydrocyanate of iron serves admirably to accomplish both of these purposes. It carries the hemoglobin to the blood in its most easily assimilable form and its hydrocyanic acid possesses remarkable sedative powers. . . ."

It is not possible for it to have any value in anemia because of its insolubility, yet we are told:

"In conditions marked by poverty of the blood producing anemia or chlorosis, reacting on the nervous system and calling for a chalybeate, hydrocyanate of iron (Tilden's) takes a front rank among the remedies of this class, combining as it does the blood enriching qualities of ferrum with the sedative action of hydrocyanic acid."

As Prussian blue yields no appreciable quantity of hydrocyanic acid under the conditions existing in the animal organism, "the sedative action of hydrocyanic acid" must be as hypothetical as the chalybeate properties attributed to it.

It is strange that a manufacturer, in introducing a new chemical compound, should have to assure his customers that it "contains no opium or alkaloid of that drug, cocain, chloral hydrate, conium or any of the bromids." Imagine a firm putting, let us say, potassium iodid—a definite chemical compound—on the market and solemnly guaranteeing that it contained no cocain or chloral hydrate!

Would the Tilden Company of twenty-five years ago have served such mental pabulum in its advertising matter?

One would think that the dictates of common humanity would protect the unfortunate epileptic from the machinations of the nostrum maker, especially from the exploitation of a remedy that has been tried and found wanting. A nostrum, however, merely has to measure up to one standard: Will it pay? Meeting this requirement nothing else matters. —(*From the Journal A. M. A., June 19, 1909.*)

HYMOSA

W. A. Puckner and W. S. Hilpert

Frequent requests for information regarding the composition of hymosa, manufactured by the Walker Pharmacal Co., St. Louis, and a perusal of the extensive and nostrum-like advertising the product is receiving, made a chemical examination of this preparation seem desirable. If the label is to be believed, hymosa has been of use in "acute and chronic muscular and articular rheumatism, gout, sciatica, lumbago, pleurodynia and neuralgia, whether due to uric acid diathesis or not . . ."

The composition of hymosa as given by the proprietors is set forth in the following statement:

" . . . Hymosa, in which the remedies *Frangula*, *Actea Spicata*, *Stellaria Media*, *Franciscea Uniflora*, *Rhus Toxicodendron*, *Passiflora Incarnata*, *Phytolacca Decandra* and *Echinacea Angustifolia* are combined in the proportions which experience has shown will obtain the quickest and best results without any of the stomach and heart complications so often following the administration of salicylic acid."

"Contains no Salicylic Acid."

Thus the explicit statement is made that hymosa contains certain vegetable drugs (most of them obsolete and valueless) and that it does not contain salicylic acid. By inference the claim repeatedly is made that the nostrum does not contain any salicylates.

" . . . Hymosa has achieved most remarkable results in overcoming rheumatism in cases where salicylates have been tried in vain . . ."

"Salicylic acid was not successful in this case of rheumatism of the stomach."

"Negative results from salicylates—Hymosa cures."

" . . . the salicylates didn't help? Then we must try Hymosa."

Still harping on the undesirability of salicylates and the value of hymosa the advertising pamphlets state:

"Salicylic Acid Replaced. The Use of This Dangerous Agent in Rheumatism Obviated."

"It seems that the use of the dangerous and ineffective salicylic acid will soon be given up and hymosa take its place."

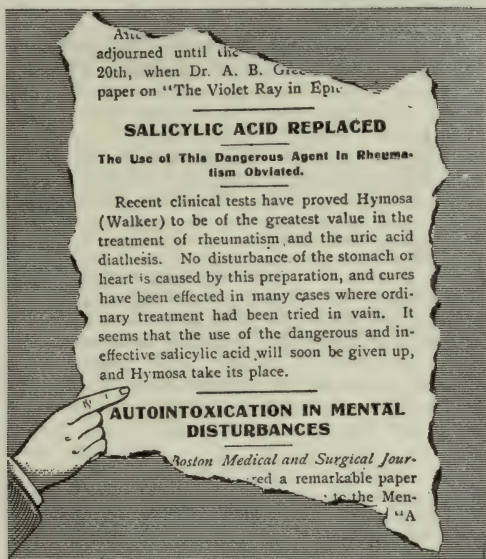
"Former methods of treating rheumatism . . . have been very unsatisfactory . . . because of the heart and stomach difficulties brought on by salicylates of which most rheumatism remedies are composed."

"Could not tolerate the salicylates."

Finally in a letter issued to physicians we are told:

" . . . you will find hymosa to possess prompt and positive curative action with the additional advantage of avoiding the heart and stomach complications, which the salicylates too often cause."

It is evident from the above quotations, in which the salicylates are denounced specifically or by implication, and from the label which states that no salicylic acid is present, that the exploiters of the nostrum deliberately intended to give the impression that hymosa is free from salicylates or salicylic acid and contains only the vegetable or plant drugs enumerated. The very fact that the proprietors make such repeated efforts to give the impression that hymosa



Reproduction (reduced) of an advertisement of Hymosa. This indicates the attempt made to convey, by implication, the idea that the salicylates are absent from Hymosa.

is free from salicylates is in itself sufficient to arouse suspicion and hence in the examination particular attention was given to the detection of salicylic acid or salicylates with the following results:

Examination.—Hymosa as purchased on the market is a dark brown liquid with an odor of sassafras and a rather sweetish taste, reacting acid to litmus. Qualitative tests having indicated the presence of salicylate, iodid, sodium, potassium, alcohol and some organic matter, presumably sugars and some plant extractives, these were determined quantitatively.¹ It was found that a part

1. Details of this analysis appear in the annual report for 1910 of the Chemical Laboratory of the American Medical Association.

of the salicylate was present as free salicylic acid and part in a combined form. The sodium determinations indicated that all the salicylate, excepting that in the form of free salicylate acid, was present as sodium salicylate. From the results of the potassium estimations, it was evident that the iodine was present in the form of potassium iodid.

From the results of the analysis it is believed that the preparation has approximately the following composition:

Salicylic Acid	0.32 gm.
Sodium Salicylate	1.15 gm.
Potassium Iodid	0.32 gm.
Sugars and extractives.....	4.60 gm.
Alcohol, U. S. P.....	16.86 c.c.
Water to make.....	100.00 c.c.

These results indicate that Hymosa is essentially a solution containing salicylic acid, sodium salicylate, potassium iodid, alcohol, sugars and plant extractives in the proportions given above, and show that the various statements referred to, regarding the absence of salicylic acid and salicylates are misleading and untrue. It further illustrates the repeatedly demonstrated fact that nostrums exploited as wonderful and new discoveries are new in name only—and whatever therapeutic value they possess depends on old and tried medicinal agents.

[EDITORIAL NOTE: In describing the methods employed by the manufacturers of Manola in exploiting their product, attention was called to the fact that the Manola Company was reported as being a subsidiary affair of the Luyties Homeopathic Pharmacy Company of St. Louis. It is reported that this same company also operates the Walker Pharmacal Company, which exploits Hymosa and Psa-avena.]—(*From the Journal A. M. A., June 11, 1910.*)

MICAJAH'S MEDICATED UTERINE WAFERS

W. A. Puckner and W. S. Hilpert

Evidently touched by the generosity of the manufacturer in sending him a sample and literature, but not too favorably impressed by the claims made for the preparation referred to, a correspondent writes:

I enclose a valuable sample and literature just received. Such a palpable humbug as Micajah's Uterine Wafers would hardly seem to need notice were it not probably true that many practitioners habituated to the use of samples are still influenced by the glowing accounts of cures wrought; especially when attested by such a name and title as "Elmore Palmer, M.D., Ex-President Western New York Medical Society." This secret gynecologic medicament is recommended for anything from "Pruritis Vulvæ," "Enlargement of the Womb," "Displacements," "Cystocele and Rectocele," to the "Menopause."

Following the definition that by her "stomach" a woman means anything from her chin to her knees, the ex-president with truly noble impartiality has with the wonderful Micajah wafers wrought lightning cures all the way from "stone-bruise" of the heel to nasal polyp and influenza, and some of them are male patients too.

With the foregoing as an impetus to investigate the nature of this much advertised nostrum, the wafers were submitted to analysis by the Association laboratory. The report follows:

LABORATORY FINDINGS

Trade packages of the wafers purchased on the open market bear the name of the preparation and that of the manufacturers, Micajah & Co., Warren, Pa. The label states that the nostrum is a:

"Disinfectant, astringent and local alterative of the greatest virtue. A remedy for the local treatment of the diseases of women. Inflammation, engorgement and prolapse of the womb, vaginitis, leucorrhea, menstrual derangements and the disturbances incidental to the menopause. Also highly recommended for affections of the mucous membranes in general, particularly those of the nose, the throat, the rectum, and for gonorrhea, cystitis, etc."

"This box contains wafers for three months' treatment."

"Price per box \$1.00."

The box contained 25 tablets, and a circular entitled, "Hints on the treatment of diseases of women," in which directions for the treatment of many diseases are given. It ends with a paragraph which contains the following statement:

"There is no doubt that the field of usefulness of Micajah's Wafers can be indefinitely enlarged by the ingenuity and therapeutic skill of the physician."

Much of the advertising "literature" is in the form of leaflets, brochures and small pamphlets full of testimonials by physicians.

Micajah's uterine wafers as found on the market are white, hexagonal tablets, odorless and possessing an astringent taste. The wafers are soluble in water with extreme difficulty. Hot hydrochloric acid and alkali hydroxids dissolve the powdered tablets readily, leaving a slight residue which under the microscope and by physical tests was identified as lycopodium.

The acid solution of the wafers responded to qualitative tests which indicated the presence of potassium, sodium, aluminum sulphate, borate and a mere trace of a fatty material. Quantitative estimation of boric acid, aluminum, sulphate, sodium and potassium were made, which indicated that Micajah's Uterine Wafers consist of alum more or less anhydrous or "burnt," boric acid and borax in approximately the following proportions:¹

Alum, dried.....	59.86	per cent.
Borax, dried.....	15.62	per cent.
Boric acid.....	5.67	per cent.
Water of hydration.....	18.85	per cent.

The average weight of the tablets is 0.7791 gm (11.8 grains) and allowing for the fact that the quantity of water present in commercial exsiccated alum varies, each tablet would contain approximately 0.4986 gm. (7.8 grains)

1. Details of this analysis appear in the annual report for 1910 of the Chemical Laboratory of the American Medical Association.

burnt alum; 0.2337 gm. (3.6 grains) crystallized borax, and 0.0467 gm. (0.7 grain) boric acid.

COMMENT

Judging from the "literature" that goes with the packages of this nostrum, one might imagine that it was put up absolutely for the layman, but this is not the case. It is advertised only in medical journals and not directly to the public. But direct advertising to the public is not necessary; for every physician who prescribes these wafers at the same time places in the hands of his patient advertising matter intended to influence that patient—and it usually does. As a result this preparation is being bought by the public direct. To what extent we do not know, but physicians are responsible for it. Probably if physicians realized that the same interests that control Piso's Consumption Cure also control Micajah's Medicated Uterine Wafers they would not be so ready to act as the unpaid agents for the concern.

That such simple astringents and feeble antiseptics as alum, borax and boric acid could have such remarkable curative effects on uterine diseases is absurd. The serious aspect of the matter is, that, by the encouragement given them in the advertising literature to treat themselves, women may neglect proper surgical or medical attention in the early stages of serious diseases such as cancer or dangerous pelvic infections, until they get beyond the hope of proper management. But when nostrum promoters urge the use of such inefficient remedies in the treatment of gonorrhea, it is time to look at the matter seriously. Considering the vital social significance of the venereal diseases, the employment of useless remedies can only favor the spread of these infections, which cause such a large proportion of the diseases which afflict women particularly.

The medical profession for the most part has become mentally calloused to the exaggerated claims of the nostrum makers and does not make sufficient effort to condemn them. There may be some physicians, however, who use such preparations as these wafers in their practice, as is indicated by the circulars wherein the manufacturers suggest that their "usefulness can be indefinitely enlarged by the ingenuity and therapeutic skill of the physician." It is only occasionally that a physician voices his indignation as to these humbugs, as in the case of the physician whose letter is quoted above.—(*From the Journal A. M. A., March 26, 1910.*)

The Firm Replies

To the Editor:—We have read with interest the report of your committee on pharmacology recently published in THE JOURNAL, on the subject of Micajah's Medicated Uterine Wafers, and your comments thereon.

We are of the opinion that, in your laudable efforts to reform the practice of pharmacology, it is not your desire or intention to act other than justly and fairly, and therefore, with this belief, we submit the following statements for your consideration, with the hope that you will see fit to publish them.

1. We do not seek by word or deed the patronage of the laity, and what few sales are made to the public are not of our contriving, nor should we be held responsible for them, any more than is the manufacturer of quinin to be blamed for the universal use of that drug.

2. Our literature should not be considered extravagant, for it is for the most part made up of clinical reports received from physicians and based on the unsolicited testimonials in our possession from hundreds of practitioners, many of whom have used Micajah's Wafers in practice from five to twenty years and they are therefore as well grounded as are the clinical reports concerning any preparation.

3. In the past year we have endeavored to place our preparation on a higher ethical basis by stating in our advertisements what our wafers contain, and by eliminating whatever seems to us open to criticism.

4. That the ingredients of the preparation are "simple" is no reason for considering them valueless. H. A. Kelly, in his work on medical gynecology, page 266, recommends these ingredients in a variety of conditions. Bandler also made important recommendations bearing on this subject in his "Medical Gynecology," 1909 edition, page 472. We feel we have the right to recommend this preparation for these and similar conditions, especially when our statements are backed up by the clinical experience of numerous general practitioners.

5. That the owner of Micajah's Wafers holds stock in a corporate firm which manufactures proprietary medicines and toilet articles, advertised to the laity, should not militate for or against our right to market a meritorious preparation on strictly ethical lines to the medical profession, inasmuch as many of the largest drug houses cater to both the doctor and the proprietary interests, and several are actively engaged in exploiting so-called nostrums.

6. We enclose a recent advertisement which has been accepted after investigation of our methods by careful medical journals, and we now believe we are conducting our business in entire conformity with the best interests of the medical profession and we feel certain of the true merits of our article.

MICAJAH & COMPANY, Warren, Pa.

[COMMENT: This letter brings out still more strongly the points raised in the article which appeared in *THE JOURNAL*, March 26, 1910. Being unable to analyze motives we must perforce, accept Micajah & Co.'s statement that they "do not seek by word or deed the patronage of the laity." In

the comments on the laboratory's report it was very explicitly stated that this nostrum was advertised only in medical journals and not directly to the public. Inasmuch, however, as the container in which this product comes has printed on it the various diseases in which the "wafers" are indicated, as, moreover, within the container there is a leaflet which describes in detail the use of the preparation in a list of pathologic states varying from "enlargement of the womb" to "gonorrhea in the male," and, finally, as the name "uterine wafers" would seem in itself to be a plain bid to the public, we still maintain that "one might imagine that it was put up absolutely for the layman."

The proposition that advertising matter should not be considered extravagant because it is largely "made up of clinical reports received from physicians" is an argument that is as old as the nostrum business itself—and as fallacious as it is old. Unfortunately, as our files show, the most extravagant statements made for proprietary products frequently emanate from men who legally are entitled to write M.D. after their name. The fact that it is not the manufacturer but a Buffalo physician who tells of the marvelous results he obtained from the use of Micajah's Medicated Uterine Wafers in forty-three cases comprising no fewer than thirty-six pathologic conditions from "otitis media" to "injured toe," and from "bunion" to ophthalmia neonatorum "does not exempt the firm that prints such stuff from the charge that its "literature" is not merely extravagant, but ridiculously so.

As Micajah & Co. say, because the ingredients of their preparation are simple is no reason for considering them valueless. On the contrary, if the "wafers" were truthfully exploited for what they are and what they will do, their very simplicity would be a virtue. But such has not been done. And therein lies the viciousness of nostrums. Simple mixtures of well-known drugs are foisted on the medical profession with no hint as to their composition and with claims made that are not only false, but would immediately be recognized as absurd, if their actual composition were known.

That a mixture of borax and alum may be of value in some of the simple ailments of the female genital tract can easily be granted. That relief might follow the use of suppositories made of these ingredients—especially when supplemented by an increased attention to simple cleanliness—can also be admitted. To say, however, that such medicaments will quickly and permanently cure gonorrhea, urethritis, endometritis, etc., is foolish, false and vicious.]
—(*From the Journal A. M. A., April 16, 1910.*)

NOITOL AND ANADOL

W. A. Puckner and L. E. Warren

Noitol

THE JOURNAL received an inquiry concerning the composition of Noitol, a preparation which is being advertised to the medical profession as a "specific" for the cure of eczema and certain other cutaneous diseases. The preparation is manufactured by the Wheeler Chemical Works, Chicago. Trade packages of Noitol were purchased and examined in the Association laboratory. On the label of the package, Noitol—an inversion of the word "lotion"—is described as follows:

NOITOL
(DR. BRADBURY'S ECZEMA LOTION.)
For External Application Only!
Our Most Popular Specialty.

A specific for the cure of Eczema, Scrofulous and Syphilitic Eruptions, Lupus, Salt Rheum, Tetter, Itch. This remedy is composed of valuable Oils, combined with Vegetable and Mineral Acids in such proportions as cause a rapid and permanent cure of the above complaints.

Noitol is a clear, nearly colorless, acid solution, the greater portion of which is water. Its specific gravity is 1.0097 at 25 C.

Qualitative tests demonstrated the presence of a chlorid, a nitrate, a mercuric salt, free acid and glycerin. No "oils" or "vegetable acids" could be found.

Analysis¹ of the preparation indicated that its composition is essentially as follows:

Mercuric Chlorid	0.0463 gm. in 100 c.c.
Mercuric Nitrate	0.0450 gm. in 100 c.c.
Glycerin	1.3021 gm. in 100 c.c.
Nitric Acid.....	1.0265 gm. in 100 c.c.
Water (by difference).....	98.5545 gm. in 100 c.c.

From the above it appears that Noitol is simply a weak, acid solution of mercury salts—the total being approximately equivalent to a 1 to 1,000 bichlorid of mercury solution—exploited under a meaningless name. It is but one more example of the old, old story of a well-known remedy being sold at a high price under a name which is in no way indicative of its composition, and under claims which are absurdly false.

The price of the mixture is \$2.00 a pint; the estimated cost, exclusive of the container, is about 6 cents a gallon, or, put another way: the price of a pint bottle, it is estimated, would make a barrel (31 gallons) of the nostrum.

1. Details of this analysis are published in the annual report for 1910 of the Chemical laboratory of the American Medical Association.

The incorrect statement concerning its components, the unwarranted therapeutic claims made for it, and the exorbitant price easily place Noitol in the front rank among the "patent medicine" frauds. Yet it is advertised to physicians as an ethical proprietary and is evidently being prescribed by them.

- Anadol

In the circular matter accompanying the trade package of the preparation, "Noitol," described above, a preparation called "Anadol" is described. Anadol is claimed to be an analgesic and antipyretic. In the descriptive circular there is no information concerning the composition of the preparation, but from the general therapeutic description the physician might easily be led to believe that "Anadol" is a distinct chemical substance.

To reduce temperature the physician is advised to push the administration of Anadol in 10 grain doses until the febrile condition is under control or until a maximum of 70 grains of the preparation has been ingested. The circular further states:

" . . . in this lies the special value of ANADOL; there are no annoying by-effects; the stomach bears the remedy well and neither circulation, respiration, nor the nerve centers show the least disturbance."

As no evidence could be obtained concerning the composition of Anadol and, as the preparation is being brought to the attention of physicians by means of circulars in connection with the distribution of Noitol, it seemed worth while to take up its examination in the Association laboratory. Accordingly a trade package of the material which had passed into interstate commerce was purchased.

Qualitative tests demonstrated the presence of sodium, a carbonate, caffein and acetanilid, the latter in considerable quantities. Analysis² indicated that the composition of the specimen examined is essentially as follows:

Acetanilid	79 per cent.
Caffein	1 per cent.
Sodium bicarbonate	20 per cent.

Since, according to the circular, it is permissible to prescribe 70 grains of this preparation within 2½ hours, a patient thus treated would receive no less than 55 grains of acetanilid! In view of the numerous cases of poisoning due to the misuse of acetanilid ("The Harmful Effects of Acetanilid, Antipyrin and Phenacetin," U. S. Dept. Agric., Bur. Chem., Bull. No. 126) the physician should be apprised of the composition of Anadol.

[EDITORIAL NOTE: The chemical investigations reported above emphasize once more the need of such an institution as the Association's laboratory and again demonstrates the value of its work. At first sight it seems disheartening to

2. Details of this analysis are published in the annual report for 1910 of the Chemical Laboratory of the American Medical Association.

find that physicians are so easily humbugged. Yet when it is remembered that it is impracticable for physicians either to analyze such products themselves or to go to the expense of having chemists do it for them, it is evident that the fault lies not so much with the physicians as with the conditions that make the exploitation of such frauds possible. It is on the public that the burden ultimately falls, for it is the layman who has to pay two dollars for a few cents' worth of medicine. But—and this is far more serious—that the physician should be urged to dose his patient with an insidiously dangerous drug to a point far beyond the limits of safety, is little less than criminal. Yet so long as unknown medicinal products are prescribed just so long will this danger be a very real one.](From the Journal A. M. A., May 21, 1910.)

Anadol Declared Misbranded

Anadol was analyzed at the Bureau of Chemistry and the chemists reported that it contained over 82 per cent. of Acetanilid. As the labels did not bear any statement as to the quantity of acetanilid contained in the nostrum, the stuff was declared misbranded and the defendant, on pleading guilty, was fined.—[*Notice of Judgment No. 795.*]

PIX CRESOL

W. A. Puckner and W. S. Hilpert

In a paper on "The Abuse of Chemical Formulas"¹ several examples were given of the various methods employed by "patent-medicine" concerns to give standing to their products by assigning to them a chemical formula. In some cases the formulas given are impossible, in other cases they may represent the chemical composition of only one constituent or it may be an attempt at both. To a chemist such formulas are absurd and on seeing a formula which he knows to be wrong he naturally thinks "Fake," "Ignorance," or both. Just such a formula ($C_6H_6N.SO$) applied to a product called Pix Cresol, manufactured by the Pix Cresol Chemical Co., Kansas City, Mo., attracted our attention. No mention of such a formula can be found in such works as Richter's most complete Index of Carbon Compounds, nor the three supplemental volumes published, 1901-1905, by the German Chemical Society and Beilstein's Organic Chemistry (3d Ed.). This fact, supplemented by inquiries from correspondents as to the composition of the substance made it seem worth while to make a chemical examination of it.

The examination was made and showed that the essential constituent was oxyquinolin sulphate. As potassium

1. Puckner, W. A.: Report of the Chemical Laboratory of the American Medical Association, iii, 7.

sulphate was also found it was concluded that Pix Cresol was a preparation containing a mixture of oxyquinolin sulphate and potassium sulphate, which has also been known in the past under the proprietary name, "Chinosol." At this time a letter was referred to the laboratory containing the report of an analysis of Pix Cresol, which showed the presence of oxyquinolin sulphate but no potassium sulphate. As this indicated that Pix Cresol contained as its essential constituent the substance now sold as Chinosol, the laboratory purchased a new specimen of Pix Cresol from the Chicago representative of the Pix Cresol Co. The examination² of this specimen showed that it consisted of approximately 21 per cent. oxyquinolin sulphate, about 8.3 per cent. potassium sulphate and the remainder almost entirely milk sugar.

It is evident, then, that both the specimen of Pix Cresol obtained directly from the manufacturers and also the one purchased more recently from the Chicago agent, contain as an essential constituent Chinosol of the composition sold formerly. The substance now sold under the name Chinosol and described in New and Nonofficial Remedies is pure oxyquinolin sulphate, and as the exploiters of Pix Cresol probably obtain their supply of oxyquinolin sulphate from the Chinosol Company, the sole American agents for Chinosol, it is to be expected that Pix Cresol should change in composition. It is probable that the analysis referred to the laboratory deals with a more recent specimen than the two examined in the Association laboratory.

EDITORIAL NOTE: In view of the Council on Pharmacy and Chemistry's findings, viz., that chinosol is a powerful antiseptic but a feeble germicide and considering that Pix Cresol contains but 21 per cent. oxyquinolin sulphate, the absurdity of the following claims made for Pix Cresol require no further comment:

"Pix Cresol is an Absolutely Sure and Yet Perfectly Safe, Never Failing Destroyer of Pus (*Staph. Pyogenes Aureus*)."

"It is germicidal, bactericidal, bacillicidal. It is certain as a micro-organism destroyer. It destroys absolutely."

"Ridding the blood of germs, it aids in rendering it replete with oxygen———."

"It kills the germs."

"No organism that is causative of morbid processes can withstand it."

"It destroys micro-organisms of all kinds. It destroys them absolutely."

"The germ's tenacity of life does not avail against its action as germicide."

"It destroys the spores and toxins utterly."

A further estimate of the pseudo-chemical company, bearing the name of this "strongest, safest, least expensive medical antiseptic, disinfectant and deodorizer known" may be gained by a cursory glance at some of its "specialties":

2. The analytical details will be published in the annual report of the laboratory.

"Maizinin compound, Positive Chill and Malaria Specific" the firm says, "prepares the parasites for execution by the leukocytes." It is said to contain arsenic, while the name implies the presence of some plant drug.

"Psora, the Syphilis Specific," is a shot-gun mixture said to be "the scientific combination of the soluble Triple Iodids with the active principles of Echinacea, Cascara amagra, Berberis aquif., and Phytolacca rad.," and is claimed to make "the syphilitic lesions disappear and fail to return."

"Rectoids—Cones for the treatment of all rectal trouble," are said to be "a combination of Rectin (Pix) compounded from Buckeye, Collinsonia, Hamamelis, Belladonna, Pix Cresol."

"Tablets for the Female—Pix Cresol Uterettes," it is said, "for sanitary purposes may be continued forever . . ."

When one realizes that this sort of pseudo-scientific twaddle is accepted by many physicians at its face value, the outlook for therapeutics seems dark, indeed. So long as the existence of such concerns is tolerated by the medical profession, so long will there be a crying need for a "Propaganda for Reform in Proprietary Medicines."—(*From The Journal A. M. A., June 10, 1911.*)

SALIODIN

W. A. Puckner and A. H. Clark

[The Council on Pharmacy and Chemistry refused recognition to Saliodin because it conflicts with Rules 1 and 6, and directed publication of the following.

W. A. PUCKNER, Secretary.]

Saliodin is sold by the Saliodin Chemical Co., Scranton, Pa. In the literature and on the trade package the following "formula" is given:

FORMULA	
Each Grs. XX of Saliodin contains approximately:	
R	
Salicylic Acid, (Aceto—Salicylate)	Grs. XV
Iodine, (Iodate) Equivalent to Iodide Potass	Grs. XV
Acetic Acid, (Acetate) Equiv. to Acetate Potass	Grs. V
Aconite - - - - -	Tr. Aconite R. Gtts. IV
Bryonia - - - - -	Tr. Bryonia, Gtts. V
Colchicum - - - - -	" Vic. Colchicum R. Gtts. XV
Capsicum - - - - -	Tr. Capsicum Gtts. II
Oil Gaultheria - - - - -	" III

This formula being indefinite and vague, the examination of saliodin was taken up in the Association laboratory.

From the analysis we calculate the composition of saliodin to be approximately equivalent to a mixture of:

Sodium salicylate.....	57.54
Potassium iodid.....	1.18
Potassium acetate.....	30.00
Matter volatile at 130° (oil of anise, oil of gaultheria, moisture, etc.).....	8.10
Undetermined (extractive?).....	3.18
	<hr/> 100.00

The analysis shows that the formula is not only indefinite and vague, but incorrect and false.

To emphasize the incorrectness of the published formula the following comment on its first two items is offered:

In the "formula" it is stated that 20 grains of saliodin contain approximately "salicylic acid (aceto-salicylate) Grs. XV." The statement is not clear, but conveys the impression that 20 grains of saliodin contain an amount of aceto-salicylate, a salt of acetyl-salicylic acid

It is an "Iodated, Aceto-Salicylate with Adjuvants," and the SPECIFIC treatment for every form of URIC ACID DIATHESIS. "Saliodin" is a SOLVENT and ELIMINANT of URIC ACID and is a happy combination of **R** Salicylic Acid, Iodine, Acetic Acid, Aconite, Bryonia, Colchicum, Capsicum and Gaultheria and chemically appears in the form of a PINK, GREYISH POWDER soluble in water 1 to 3—dose grs. X to grs. XXX; for the EXCLUSIVE USE OF PHYSICIANS—put up in one ounce bottles; price PER OUNCE \$1.50. Is manufactured ONLY by the Saliodin Chemical Co. "SALIODIN is SPECIFICALLY indicated in RHEUMATISM, GOUT NEURALGIA, MALARIA and LA GRIPPE; is ANALGESIC, ANTIPYRETIC; an INTESTINAL ANTISEPTIC, DIAPHORETIC, DIURETIC, EXPECTORANT, DEOBSTRUENT, SIALAGOGUE, CHOLAGOGUE, EMENAGOGUE, ANTI-SYPHILITIC, GONOCOCOCIDAL, PARASITICIDAL, ASEPTIC, BACTERICIDAL and ALTERATIVE. Doctor, you may prescribe Saliodin with confidence wherever IODINE or a SALICYLATE is indicated. Used both internally and externally.

Reproduction (much reduced) of a paragraph in the advertising pamphlet on Saliodin. Note the twenty-one indications for Saliodin. Lest some condition might be overlooked, we are advised to use it "internally and externally." Isn't this scientific therapy?

(aspirin), equivalent to 15 grains of salicylic acid. But the chemical examination shows that it contains neither acetyl-salicylic acid, nor salt of acetyl-salicylic acid, nor even salicylic acid itself. In the place of these, the analysis shows that over half of saliodin is the common, every-day sodium salicylate.

According to the "formula," each 20 grains of saliodin contains "iodin (iodate), equivalent to iodid potass. Grs. XV." This statement, too, is vague, but conveys the impression that 20 grains of saliodin contain an amount of iodine, in combination as an iodate, which corresponds in iodine content to 15 grains of potassium iodid. But the analysis shows that the product does not contain any iodate whatever, and that the amount of iodine contained in it is sufficient to account for only $\frac{1}{4}$ grain of potassium iodid in each 20 grains of saliodin.

COMMENTS

The above report is published simply as another example of the "ethical proprietaries" that physicians are asked to prescribe. It is not unique. It is neither better nor worse than hundreds of others.

To show what absurdities appear in the "literature" (?) that is sent to physicians, we reproduce a paragraph from an advertising pamphlet. The promoters' statement as to the composition of the product is absurd, but not more so than are the claims made for it as a therapeutic agent. There is not a "patent medicine" on the market for which any more blatant, extravagant and ridiculous claims are made.

The manner of exploiting saliodin is another illustration of the tendency on the part of nostrum-makers to advertise their wares through pseudo-scientific articles published in a certain class of medical journals. In the pamphlet sent out by the Saliodin Company appears a reprint of an article from the *Philadelphia Medical Summary* of February, 1905. It is entitled "A Similarity in the Etiologic Factors of Rheumatism and Malaria," and was written by J. C. Denston, M.D. In it occurs this statement: "The manufacturers (of saliodin) publish their formula and, *I think*, distribute samples and literature on request." The charming ingenuousness of this statement is fully realized when it is understood that J. C. Denston is the president of the Saliodin company. This is also another illustration of what is now a common occurrence, viz.: men who are engaged in manufacturing proprietary products and who have an M.D. degree use that degree as a commercial asset, and by this means the average reader is led to think that articles written by them in praise of their own products are spontaneous tributes from practicing physicians—(*From The Journal A. M. A., Oct. 26, 1907.*)

THEOBROMIN SODIUM SALICYLATE VERSUS "DIURETIN": THE ECONOMICAL ASPECT

W. A. Puckner and Paul N. Leech

The following inquiry is from Dr. Reid Hunt, recently appointed professor of pharmacology at Harvard Medical School:

"Have you ever made an examination of the theobromin sodium salicylates on the market to determine if they are identical with 'Diuretin'?" The description of theobromin sodium salicylate in New and Nonofficial Remedies agrees with the statements as to the composition of Diuretin, but I wondered if, at times at least, the theobromin sodium salicylate on the market might be a simple mixture of theobromin and sodium salicylate just as the *Caffeinae Sodio-Salicylas*, N. F., seems to be a simple mixture. Diuretin is quoted in current price-lists at \$1.75 an ounce, whereas the price of theobromin sodium salicylate is only 35 cents an

ounce. Many hospitals use diuretin, and both physicians and students often have only hazy ideas as to what it is. If the preparations of theobromin sodium salicylate now on the market are identical with Diuretin they should certainly be used, not only because they are less expensive, but because the descriptive name will continually remind the physicians of what they are using."

Theobromin for some time has been regarded as a valuable therapeutic agent. The obstacle to its use has been its insolubility and the consequent uncertainty of the degree of its absorption. For this reason a soluble salt of theobromin, theobromin sodium salicylate, first introduced and advertised under the proprietary name "Diuretin," has come to be used to a considerable extent.

Theobromin sodium salicylate—also called theobromin and sodium salicylate—is prepared by interaction, in molecular proportions, of theobromin, sodium hydroxid and sodium salicylate, the theobromin first being treated with sodium hydroxid in the presence of a suitable solvent, then the sodium salicylate added and the whole brought to dryness. The soluble compound which is formed is generally considered to be a double salt of theobromin sodium and sodium salicylate.

Theobromin sodium salicylate is described in New and Nonofficial Remedies and in several foreign pharmacopeias. It is also to be described in the forthcoming United States Pharmacopeia.

Although the product is not controlled by patents of any kind, and although it is offered for sale under its chemical name by the leading chemical manufacturers at from 35 to 45 cents per ounce, the proprietary product, Diuretin, sells for \$1.75 an ounce. This is probably because the manufacturers think that those who have been using it under its chemically non-descriptive but therapeutically suggestive title, Diuretin, will remain ignorant of the fact that the same product is on the market under its chemical name. In view of these conditions, emphasized by Dr. Hunt's letter, it was deemed important to examine the market-supply of theobromin sodium salicylate and to compare the several specimens with the proprietary brand Diuretin.

The following specimens, purchased in 1-ounce original packages, were examined:

Diuretin, "Knoll," Knoll & Co.

Theobromine and Sodium Salicylate, Mallinckrodt Chemical Works.

Theobromine and Sodium Salicylate, Merck & Co.

Theobromine and Sodium Salicylate Powder, Powers-Weightman-Rosengarten Co.

Theobromine and Sodium Salicylate, "Roche," Hoffmann-La Roche Chemical Works.

Theobromine and Sodium Salicylate, Squibb, E. R. Squibb & Sons.

The theobromin content prescribed for theobromin sodium salicylate by the various standards ranges from 45 to 50 per cent., that of New and Nonofficial Remedies being the highest. A requirement of not less than 46.5 per cent. theobromin in the dried powder has been proposed for the new U. S. Pharmacopeia.

The methods of quantitative estimation laid down by the various authorities are all very similar and consist, in the main, of a determination of water, of the sodium hydroxid, free and in combination with theobromin, and of the theobromin itself. For the theobromin estimation the following method was employed:

A weighed sample (about 2 gm) which had previously been dried, under slightly reduced pressure, over sulphuric acid, to constant weight, was dissolved in five times its weight of warm water. Two drops of phenolphthalein were added, and the solution titrated with normal hydrochloric acid. To the neutral solution, 1 drop of 10 per cent. ammonium hydroxid solution was added, and the mixture allowed to stand, with occasional stirring, for three and one-half hours at the temperature of 15 C. The precipitate was filtered on a weighed Gooch crucible, washed with just ten times the weight (of the original sample taken) of water (temperature 15 C.) and the precipitate dried at from 100 to 104. To the weight obtained, a correction factor (proved satisfactory by quantitative extraction experiments on the filtrate) of 0.13 gm. was added, for every 2 grams of the original sample taken.

The full details of the examination will be published in the 1914 Reports of the A. M. A. Chemical Laboratory. The results of the examination have been abstracted and are compiled in the accompanying table:

SUMMARY OF ANALYSIS

	Physical Appearance *	Gm. in 1-Ounce Bottle	Price Per Ounce	Moisture, Per Cent.	Alkaline, as NaOH on Dry Powder † Per Cent.	Theobromin, in Dry Powder † Per Cent.	Theobromin in Orig. Specimen † Per Cent.
Diuretin	3 Pure White	28.5	\$1.75	0.01	10.44	48.61	48.61
Theo. Sod. Sal. M. C. W.	3 Pure White	27.5	0.35	1.89	9.95	46.11	45.24
Theo. Sod. Sal. Merck	1 Pure White	29.0	0.35	0.48	10.38	47.87	47.58
Theo. Sod. Sal. P. W. R. Co.	2 Pure White	29.1	0.35	2.46	10.30	47.57	46.39
Theo. Sod. Sal. Roche	3 Pink.....	28.6	0.35	2.27	9.92	49.05	47.92
Theo. Sod. Sal. Squibb	1 Pure White	26.8	0.45	0.39	9.97	46.82	46.63

* In this column, 1, 2 and 3 denote the following:

1. Quite crystalline, under microscope.
2. Fairly crystalline, under microscope.
3. Not crystalline, under microscope.

† Average of determinations.

While the results show some variation in the moisture content and also in the actual theobromin content of the dried specimens, the variation is unimportant. The products in their original state (undried), as compared in relation to the theobromin content (the highest percentage of theobromin being 48.61, the lowest 45.24), reveal a variation of only about 3 per cent.—a variation which is negligible in the case of drugs such as theobromin.

From the preceding investigation, it is concluded that (1) practically there is no difference between the non-proprietary brands of "theobromin sodium salicylate" and "Diuretin;" (2) the several specimens examined were not simple mixtures of "theobromin" and "sodium salicylate"; (3) essentially all the brands complied with the standards laid down and can be rated as satisfactory; (4) "Diuretin," though sold at an exorbitant price, is not superior to the product supplied under the descriptive term "theobromin sodium salicylate," and (5) "Diuretin" sells wholesale for \$1.75 an ounce, against 35 cents for the "theobromin sodium salicylate," and therefore its employment cannot be interpreted otherwise than as a useless and unnecessary expense.—(*From The Journal A. M. A., April 4, 1914.*)

UNGUENTINE

W. A. Puckner and A. H. Clark

Attention has been called at various times to the fact that the value of a published "formula" to a proprietary remedy is in direct ratio to the reliability of the manufacturer publishing it. When medical journals first insisted on their advertisers letting physicians know the contents of the remedies they wished to sell them, medical literature reeked with formulas—some of them of weird and wonderful design. Since the advent of the Food and Drugs Act, which requires that labels shall approximate truthfulness, and particularly since the Council on Pharmacy and Chemistry has investigated a number of proprietary remedies, the publication of "formulas" is not so common.

Unguentine, manufactured by the Norwich Pharmacal Co., is one of those remedies whose advertisement for years always included "a formula"; more recently, however, this is not in evidence. In an advertisement which appeared about ten years ago, the "formula" given is:

"Carbolic acid	2 per cent.
"Ichthyol	5 per cent.
"Alum	15 to 16 per cent."

It was claimed that, by a special process of their own, the manufacturers had eliminated most of the astringent properties of the alum, rendering it non-irritant. It was also stated that "the base of Unguentine is pure petrolatum."

Later the manufacturers seem to have changed the composition of their product, or at least the "formula" given in the advertisements was changed. Thus it appeared:

"Alum	15 per cent.
"Zinc oxid	5 per cent.
"Carbolic acid	2 per cent.
"Ichthyol	5 per cent.
"Aromatics and antiseptic oils with specially prepared petrolatum and animal fat base."	

The introduction of zinc oxid, aromatic and antiseptic oils and animal fat was a new feature. Somewhat later, and particularly since the passage of the national Food and Drugs Act, no formula or other statement regarding the composition seems to have appeared in the advertisements in the medical press. In the 1906 price-list (p. 170) the following formula appears:

"Unguentine represents:	
"Alum (non-irritating)	15 per cent.
"Phenol	2 per cent.
"Ichthyol	5 per cent.
"Zinc oxid	5 per cent.
"Aromatic and antiseptic oils, with especially prepared petrolatum and purified animal fat."	

In the price-list issued for 1908—after the Food and Drugs Act went into effect—the following appears:

"Unguentine represents:	
"Alum compound (non-irritating)	
"Phenol,	
"Ichthyol,	
"Zinc oxid,	
"Aromatic and antiseptic oils, with especially prepared petrolatum and purified animal fat."	

Thus the proportions are omitted, and alum becomes "alum compound," whatever that may mean.

In view of the conflicting statements made by the Norwich Pharmacal Company, in regard to their leading specialty, Unguentine, and especially because much stress was laid on the filing of their "guarantee" under the Food and Drugs Act, it was decided to ascertain of what Unguentine really consists.

From our analysis we conclude that Unguentine contains not alum but aluminum acetate (small amounts of alum may be present as impurities in the aluminum acetate), zinc oxid, or more probably impure zinc carbonate, and that the entire quantity of both does not exceed 5 per cent. It contains no ichthyol, or if any but the merest traces, and less than 1 per cent. of phenol. The aromatic oils amount to not more than approximately 1 per cent. in all. The ointment-base is, in the main, petrolatum.

In Unguentine we have, therefore, another proprietary "specialty," regarding the composition of which indefinite, false or misleading statements have been made—this irrespective of protestation of honesty by the firm.—(*From The Journal A. M. A., March 27, 1909.*)

URICEDIN

W. A. Puckner and A. H. Clark

In view of the results of investigations by Zernik of Uricedin as sold in Germany, and because it is being advertised to physicians in this country, an examination of this product was made in the laboratory of the American Medical Association. Zernik's report shows how this remedy has varied in its composition as put on the market in Germany. From their analysis the authors find that Uricedin is not a definite chemical compound as is claimed, but is a simple mixture whose composition is approximately:

Sodium sulphate (anhydrous).....	61.52 per cent.
Sodium citrate (anhydrous).....	29.62 per cent.
Sodium chlorid.....	2.13 per cent.
Citric acid (anhydrous).....	3.25 per cent.
Moisture	2.53 per cent.
Undetermined	0.95 per cent.

 100.00

Uricedin, therefore, is not a definite chemical compound as claimed, but a simple mixture which consists essentially of sodium sulphate (dried Glauber salt) $\frac{2}{3}$, and sodium citrate $\frac{1}{3}$. It is, therefore, a typical nostrum, and, as it appears, one the composition of which is changed from time to time to suit the whim of the manufacturer. The therapeutic claims made for it are of the usual extravagant character. According to a recent advertisement it is "used successfully for Gouty Diathesis, urinary Calculi, Rheumatoid Arthritis," "useful in Migraine, Occipital Headache, Epilepsy, Hay Fever, Asthma," etc. If such a simple mixture will do all that this one is claimed to do, let us use it, but prescribe its ingredients under their proper names. Such a mixture would cost only a few cents a pound, but this nostrum is listed at \$1.25 a bottle of five ounces, or probably \$1.75 at retail, and this for the benefit of its foreign manufacturers and their agents.—(*Abstracted from The Journal A. M. A., Nov. 23, 1907.*)

URISEPTIN

W. A. Puckner and W. S. Hilpert

"Uriseptin," manufactured by the Gardner-Barada Chemical Co. of Chicago and claimed to be a "urinary antiseptic, uric acid solvent and diuretic," was examined in the laboratory of the American Medical Association to determine to what extent the claims made for it are justified.

The preparation as purchased in the open market bears a label which presents the claims of the manufacturers, emphasized by the chemical analysis duly signed by an analyst and

attested by a notary. Accompanying is a reproduction of part of the label.

Before the examination had extended very far it was found that discrepancies existed between facts and claims, and by the time the analysis was complete Uriseptin was found to be in the same class as many other proprietary remedies that have been discussed in these columns.

Our examination shows that the most misleading statement is that concerning the "lithium-formaldehyd" compound the presence of which is claimed, more or less directly, by both the manufacturers and the analyst employed by the

ANALYSIS

Sample of "Uriseptin" manufactured by the Gardner-Barada Chemical Co., Chicago, Ill., was found to contain:

Specific Gravity at 15.5 C.....	1.0716
Total Solids	20.42 p.c.
Alcohol (Ethyl).....	7.66 p.c.
Water (by Difference).....	71.92 p.c.
Total Ash	1.46 p.c.
Lithium Oxide	0.50 p.c.
Formaldehyde	5.62 p.c.
Acidity 100 cc equals 6.4 cc Normal Alkali.	
Sugars.....	Present
Couch Grass Extract.....	Present
Corn Silk Extract.....	Present

The Total Solids consist mainly of the sugars and extract of corn silk and couch grass. The couch grass and corn silk extracts were determined by taste and smell in comparison with authentic samples of same products. The Lithium Oxide and the Formaldehyde are in combination in the Uriseptin and together represent 26.77 grains per liquid oz. I remain,

Yours very truly,

(Signed) DR. EDWD. GUDEMAN.

STATE OF ILLINOIS } ss.
COUNTY OF COOK }

Subscribed and sworn to before me this 13th day of May, 1905.

(Signed) PAUL E. BUEDEFELDT,
Notary Public.

URISEPTIN

FORMULA

(See analysis).

Each fluid ounce of Uriseptin contains Formaldehyde combined with Lithium dissolved in concentrated liquid extract of Corn Silk and Couch Grass, and will liberate a sufficient quantity of Formaldehyde (24 grains) to impregnate the daily secretion of urine (45-50 fluid ounces) to a 1-1000 solution.

PROPERTIES

Urinary Antiseptic, Uric Acid Solvent, Diuretic.

INDICATIONS

Diseases of the urinary tract and their complications—Nephritis, Pyelitis, Urethritis, Gonorrhea, Gleet, Cystitis, Bacteriuria, Uremia, Phosphaturia, Prostatitis. Diseases dependent on uric acid diathesis—Gout, Rheumatism, Calculus, Asthma and generally as an antiseptic and uric acid solvent.

DOSE

Tablespoonful night and morning, or one to two teaspoonfuls four times a day, preferably in hot water.

Reduced photographic reproduction of part of the Uriseptin label.

manufacturers. Although the chemical properties of lithium and formaldehyd indicate in themselves that the existence of such a compound would be most improbable, yet considerable time was spent in searching the chemical literature for such a compound. Thorough search, however, demonstrated that no such compound, nor any that even approximated it, has been described.

The question then arose as to the form in which the lithium and the formaldehyd are present. The statements regarding its properties as a urinary antiseptic and the fact that the preparation is said to liberate formaldehyd slowly in the bladder point strongly to the presence of hexamethylenamin.

Tests¹ were applied to demonstrate whether the formaldehyd was present as a lithium compound, and if not, whether it existed in the form of hexamethylenamin. By these the presence of hexamethylenamin was proved and the absence of formaldehyd in other combinations demonstrated. This fact alone shows that the preparation is deliberately marketed under a false claim, and it shows further that the analysis on the label is worthless. The quantitative method of analysis demonstrated the presence of 5.51 gm. hexamethylenamin per 100 c.c. (25.15 grains per fluidounce).

Besides the hexamethylenamin, Uriseptin contains lithium and a benzoate. Concerning the latter nothing is said in the analysis, whose worthlessness is again demonstrated. By quantitative methods Uriseptin was found to contain lithium and a benzoate in such proportions as would indicate that the lithium and the benzoate radicle exist as lithium benzoate. This fact is further indicated by the claims made for the preparation regarding its properties as a uric acid solvent, for which purpose lithium benzoate is often used. Again, the demonstration that the formaldehyd present is in combination as hexamethylenamin precluded any possible chemical combination between lithium and formaldehyd and adds another strong point in support of the conclusion that the lithium and benzoic acid are in combination as lithium benzoate.

CONCLUSION

By chemical analysis the active ingredients of Uriseptin are shown to be hexamethylenamin, approximately 5.5 gm. per 100 c.c. (about 25 gr. to each fluidounce), and lithium benzoate, approximately 0.70 gm. per 100 c.c. (about 11 grains to each fluidounce), neither of which compounds is mentioned in the advertising matter on the label or in the so-called "analysis" on the label. The statements concerning the composition of Uriseptin are false and appear to be a deliberate attempt to mislead physicians.

COMMENT.—Investigation of the various "patent" and so-called "ethical proprietaries" advertised to the public and to the medical profession shows that those that have any value as therapeutic agents depend for that value on some well known drug or drugs. Hence, while many proprietaries have some virtue, the ingredients which are of any value are so concealed by the coined and "near-scientific" names applied to them that these drugs are usually unrecognizable. The many and various acetanilid mixtures furnish examples of this class of proprietaries. And now we find another example in that much advertised nostrum, Uriseptin.

1. These appear in the annual report for 1908 of the Chemical Laboratory of the American Medical Association; they were also published in full in *Jour. Am. Chem. Soc.*, September, 1908; an outline of the analysis appeared in *THE JOURNAL A. M. A.*, Aug. 29, 1908.

According to our chemists, the chief ingredients of Uriseptin are hexamethylenamin and lithium benzoate. Hexamethylenamin is a valuable so-called urinary anti-septic—probably one of the best we have. It is a pity that more physicians do not know the value of this drug in and of itself; it is a common ingredient of many proprietaries, and yet too seldom prescribed under its true name. There is no reason for its being given in the form of a nostrum; it requires no skill in compounding, for it is best given in its powdered form, either in capsules or otherwise. So that, like acetanilid, the old argument of the nostrum men that the preparation needs skill in compounding will not hold. If a physician wants to prescribe hexamethylenamin let him prescribe it in its simplest and best form, and thus know exactly what he is giving.

Lithium benzoate also has its rightful place in the *materia medica*, but not hidden in a proprietary mixture to be prescribed unknowingly. It is hard to conceive of any one thing that operates more disastrously against scientific therapeutics than the vicious practice of marketing under proprietary names standard and valuable drugs, with their identity purposely concealed. Yet how frequently it is done. Well-known drugs of unquestioned worth are combined with those that are little known and of doubtful value, or more likely absolutely worthless, the mixture is put on the market under a high-sounding name and it is exploited through physicians as a panacea for all kinds of diseases.

In this, as in so many other instances, an "analysis" made to order is given to lend an air of apparent respectability and scientific standing to the preparation or to its exploiters, with the object, of course, of misleading physicians into thinking they are reading unbiased testimony. In addition, the "literature" accompanying the preparation is usually a jargon of pseudo-scientific verbiage put in to serve the same purpose as the analysis—that of catching the careless physician.

This state of affairs will continue just so long as the medical profession will tolerate it—and no longer. So long as members of our profession will prescribe proprietaries on the statements of their owners—as to both their composition and their therapeutic value—just so long will pseudo-chemical and pseudopharmaceutical companies fatten at the expense of the medical profession and to the detriment of the public health.—(*From The Journal A. M. A., Aug. 29, 1908.*)

ZEMACOL

W. A. Puckner and W. S. Hilpert

Attention has been called to the vague and mysterious statements regarding a preparation called Zemacol, manufactured by the Norwich Pharmacal Co., Norwich, N. Y. Because of the unsatisfactory statements regarding the com-

position of the preparation, it was considered of sufficient interest to make an analysis and determine its chemical constituents. Accordingly specimens of the preparation were obtained and examined.

The preparation Zemacol (Norwich Pharmacal Co.), as found on the market, is a thick, pink, mucilaginous liquid, highly perfumed and having besides a suggestion of a phenolic odor. The bottle bears a label on which appear the following statements:

"A colloidal emollient containing extract of the rete mucosum of the healthy yearling lamb, combined with glycerin, salicylic acid and other antiseptic and aromatic oils. Useful in eczema and diseases of the integument where cell destruction is a prominent factor."

In the advertising matter the following claims are made:

"An advance in animal therapy. . . ."

" . . . increases the nutritive activity of the cell tissue of the skin through the absorbable extract of the rete mucosum."

" . . . clinical tests show its efficacy in both the so-called moist and dry eczematous conditions of all parts of the cutaneous surfaces."

" . . . rich in animal cells."

Since nothing could be found in the literature regarding the therapeutic action of an extract of the rete mucosum of the sheep, it was thought possible that the statements on the label were given simply as a vague and mysterious means of indicating the presence of wool-fat (lanolin), and tests were made to determine the presence or absence of the latter substance. A substance was isolated from Zemacol which had the physical properties of, and responded to some of the chemical tests for, wool-fat; but it was found in such small quantities as to indicate that it was not present as an active constituent. Since there are no definite tests for the detection of serums or animal extracts the presence or absence of these could not be demonstrated. Further examination indicated the presence of salicylic acid, a gummy material, having the properties of tragacanth and glycerin. It is practically free from inorganic matter. By distillation a small quantity of oil was isolated, which possesses the characteristic odor of the preparation.

Quantitative estimations¹ indicated the presence of the above-mentioned constituents in approximately the following quantities:

	Per Cent.
Gummy matter having the properties of tragacanth.....	2.02
Salicylic acid	0.67
Matter having the general properties of wool-fat (lanolin)....	0.20
Glycerin	5.50
Volatile matter (water and alcohol).....	91.00
Aromatic oils and phenol-like bodies.....	Trace

The results of the above analysis, together with advertising matter regarding Zemacol, were submitted to Dr. William Allen Pusey, professor of dermatology and clinical

1. Details of this analysis appear in the annual report for 1910 of the Chemical Laboratory of the American Medical Association.

dermatology, College of Physicians and Surgeons, Chicago, and past chairman of the Section on Dermatology of the American Medical Association, with the inquiry whether or not there was any record of investigations regarding the therapeutic value of an extract of the rete mucosum of the sheep and whether in his opinion the claims made for Zematol would be warranted. The following reply was received:

"So far as I know, nobody ever thought of or proposed the use of an extract of rete mucosum as a therapeutic agent and if a serious suggestion of that sort had ever been made I believe I would know it. I can conceive of no service which such an extract could render and I think the suggestion of it is a highly fantastic idea. From the analysis which you furnish I should say that the mixture described is substantially the ordinary 2 per cent. solution of tragacanth in glycerin and water with a little antiseptic added to keep it from decomposing. That is a commonly known lotion, modifications of which are used in practically every hospital as a hand lotion, and has no magical virtues whatever. Incidentally, I should think it cost, aside from the labor, about twenty cents a gallon to make it."—(*From The Journal A. M. A., May 14, 1910.*)

ZYME-OID

W. A. Puckner and W. S. Hilpert

Zyme-oid, manufactured by the Oxychlorine Chemical Company of Chicago, is advertised as "a powerful gastrointestinal antiferment" which will "arrest and prevent bacterial fermentation in any portion of the intestinal tract, whether the media be acid or alkaline." These extravagant statements, like many others made regarding the properties of zyme-oid, are very similar in character to those made in the circulars accompanying the preparation oxychlorine, manufactured by the same firm and exposed in THE JOURNAL, July 6, 1907, page 54. (See page 147 of this book.)

As examples, several parallel statements help to show this similarity. The formula (?) of oxychlorine, as expounded on the label, is given in full, while in the case of zyme-oid only a hint is given as to its composition, but still sufficient to point to a similarity between the two:

OXYCHLORINE

"Oxychlorine is a tetraborate of sodium and potassium combined with oxychlorid of boron, thus: $(6\text{NaKB}_4\text{O}_7)\text{BOCl}_3$."

ZYME-OID

"Zyme-oid is a double borate salt."

In the matter of claims for chemical stability the two seem to be very closely allied:

Oxychlorine is "a stable salt under all conditions until brought in contact with sub-oxygenated organic matter."

Zyme-oid is "a product which is stable enough for keeping purposes, but which readily yields nascent oxygen in the presence of bacterial products."

The therapeutic properties attributed to these sister products are even more similar, for we find that:

"Oxychlorine is adapted to all morbid and abnormal fermentative alimentary states."

"Zyme-oid is a powerful gastrointestinal antiferment."

Many more statements and claims could be quoted to show a similarity between, amounting almost to an identity of, oxychlorine and zyme-oid.

With these facts in mind, the analysis of zyme-oid was undertaken in order to compare it with the previously examined oxychlorine and to determine to what extent the claims made for zyme-oid are upheld by its composition. The analysis indicated, as was expected, that zyme-oid is essentially the same as oxychlorine as is shown in the following, quoted from the report of the analysis of each:

ANALYSIS OF OXYCHLORINE	
Potassium (K).....	12.26
Sodium (Na).....	8.20
Chlorate (ClO_3).....	25.32
Nitrate (NO_3).....	21.70
Boric acid anhydrid (B_2O_3)	18.63
Water, calculated.....	13.29

ANALYSIS OF ZYME-OID	
Potassium (K).....	13.50
Sodium (Na).....	9.84
Chlorate (ClO_3).....	27.50
Nitrate (NO_3).....	24.22
Boric acid anhydrid (B_2O_3)	13.42
Water, calculated	10.42

Assuming that the chlorate in zyme-oid is present as potassium chlorate and the nitrate is present as sodium nitrate, the figures obtained by analysis correspond to a mixture approximately as follows:

Potassium chlorate (KClO_3).....	40.43
Sodium Nitrate (NaNO_3).....	33.22
Potassium tetraborate ($\text{K}_2\text{B}_4\text{O}_7$).....	1.60
Sodium tetraborate ($\text{Na}_2\text{B}_4\text{O}_7$).....	3.31
Boric acid.....	21.14

From the results of the analysis and from the physical properties of zyme-oid we conclude, just as was done in the case of oxychlorine, that the preparation is not a definite chemical compound, but is essentially a mixture of alkali chlorate and nitrate with boric acid, probably produced by fusing together the constituents.

COMMENT

An examination of the claims made for the firm's two products, while, as already proved, disclosing many points of similarity, will also show one remarkable difference. We refer to the skilful indefiniteness that pervades the claims made for zyme-oid and which defies scientific refutation. This verbal obscurity is becoming daily more common in the "literature" of firms marketing nostrums. Since the Council has analyzed many of the much-advertised articles and proved the unreliability of the pseudo-scientific claims made for them, the more cautious of the nostrum-mongers have modified the matter descriptive of their products. They have called to their aid the principle that

words were given to man to conceal thought rather than to express it, and they have reduced equivocation to a fine art. Wherever it was possible to put forward claims by implication rather than by expression this has been done.

To substantiate further the claims made by the manufacturers of zyme-oid for their product, a laboratory report is brought in evidence. This report, which is written more in the style of a peruna testimonial than that of a conservative scientific statement, fails to verify the claim that zyme-oid is a "double borate salt," but confines itself to a statement of its harmlessness and its anti-fermentative properties. In passing, it seems regrettable that scientific laboratories should, for a pecuniary consideration, be willing to jeopardize their reputations by lending their names to the furtherance of nostrum exploitation. The results of the examination of zyme-oid demonstrate that the product is no more worthy of the physician's consideration than its close, and equally worthless, relative, oxychlorine.—(*From The Journal A. M. A., May 23, 1908.*)

PART III

CONTRIBUTIONS FROM THE JOURNAL: NOSTRUMS

ALLEOTONE

The formula of this preparation, given in the literature, reads as follows:

Alcoholici (Monatomic).....	gr. 1/1000
Quininae Sulphatis.....	gr. 1/384
Ac. Sulph. Dil. (10 per cent.).....	gtt. 2½
Ac. Nitrici Dil. (10 per cent.).....	gtt. 1/77
Ac. Butanol-Dioic.....	gr. 1/3
Tr. Ferri Chloridi.....	gtt. 1/26
Aquæ	gtt. xx

The formula is worthless. It can only mislead and mystify and the greater part of the literature is a mere jumble of inaccurate and mystifying statements. The various constituents of the preparation are taken up as follows. The advertising literature states:

"Monatomic Alcohol is one of the constituents of all nerve tissue: It is a product of the replacement of one atom of hydrogen of the hydrocarbons by their hydroxyl group H.O."

This information does not inform, since there is a vast number of monatomic alcohols and of every description. The assertion that the preparation "contains a salt" would be perfectly analogous and just as enlightening. Of "Ferri Chlo" the literature says:

"Ferri Chlo is found with all proteids and nucleins and herein acts as magnetic iron, aiding the play of the electrical travel."

The first assertion is untrue, for iron does not exist as chlorid in the cells of the body, but as some organic iron compound; neither is it found in all proteids, but principally in nucleo-albumins; and not all proteids contain nucleo-albumins. The assertion that the iron chlorid "acts as magnetic iron aiding the play of the electric travel" is nonsensical and on a par with the electric belt method of exploitation, and suggests forcibly the class to which Alleotone belongs. The literature further states:

"Sulphuric and nitric acids act in removing hydrogen atoms and substitute atoms of the radical NO₂; that is, as hydrogen tranquilizes the speed of burning or oxidation, its action is substituted by the atom nitrogen which is energy itself, nitrogen being the base of all explosives."

Sulphuric acid is certainly an oxidizing agent and in virtue thereof removes hydrogen; but not in a solution

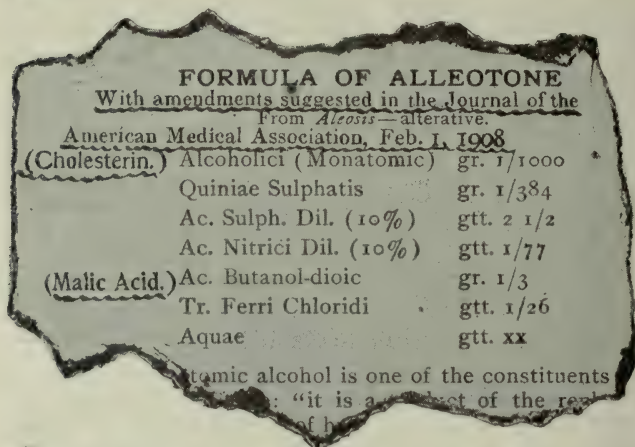
whose concentration with respect to sulphuric acid is approximately only 0.82 per cent. The statement that nitrogen is the "base of all explosives" is another example of the methods of the promoters. As it is a well-known fact, however, that nitrogen itself is one of the least reactive of gaseous elements, little confidence can be placed in such remarks as "Nitrogen which is energy itself." Another mystifying term used in the formula is "Ac. Butanol-Dioic," which is a true chemical name, certainly, but it is one by which few physicians will recognize simple malic acid, an ordinary vegetable acid widely distributed in ripe fruits, such as apples and pears, and possessing the properties simply of a relatively weak organic acid. To describe it as exercising any potent influence "in the oxidation of the phosphorus as lecithin in the cell"—especially in the extremely low concentration in which it is stated to exist in Alleotone—is simply an absurd juggling with words. It is not much to be wondered at that the public should be taken in by pseudoscientific "literature"; but it is not only strange, it is discreditable to our profession, that among its members should be found any to accept such rubbish as the above quoted "literature" as information worth acting on—yet such there are, judging from the testimonials.—(*Abstracted from The Journal A. M. A., Feb. 1, 1908.*)

The Commercial Value of Adverse Criticism

For skilful attempts to convert a "knock" into a "boost," commend us to the discredited nostrum exploiter. The federal Food and Drugs Act did much to bring out this amiable quality—possibly developed it. While somewhat ancient history, it is well to call to mind what happened when the excise authorities insisted either that the "patent medicine" booze, Peruna, have some medicine put in it, or else that its manufacturers should go into the saloon business. Hartman at once got out a new label stating that "for a number of years a multitude of grateful friends" had urged "that Peruna be given a slight laxative quality." Thenceforth the innocents and near-innocents could get their perunaese jag only at the risk of a "bad quarter of an hour."

One of the latest attempts to wriggle cut of an uncomfortable position, and at the same time make capital out of the wriggling, is seen in the advertising of Alleotone, a nostrum of the pseudoscientific type, which was shown up in *THE JOURNAL* of Feb. 1, 1908. The "formula" furnished is for the most part a jargon of misleading and mystifying nonsense and fulfils the same purpose as the voluble "patter" of the gentleman who is manipulating three shells and a pea at the county fair.

Every constituent of the "formula" was discussed in THE JOURNAL and the absurdities and impossibilities of each dwelt on. Did the manufacturers of Alleotone feel downcast over the exposure of their humbug? Not to judge by their advertising, for they write to physicians that "since the A. M. A. analyzed Alleotone it has made great strides"—direction not specified. But the choicest piece of impudence, and one that but for its dishonesty would be laughable, is found in this portion of their advertising pamphlet:



In the original, the words "With amendments suggested in the Journal of the American Medical Association, Feb. 1, 1908," and also "(Cholesterin.," and "(Malic Acid.)," which we have underscored in the illustration, are printed in red and have been added to the original "formula." Such are the uses of adversity.

What claim, if any, the exploiter of this nostrum—B. F. Copeland—has to medical or pharmaceutical knowledge, we do not know. In fact, to be consistent with the "ethics" of the nostrum business he need have none. Such knowledge, indeed, tends to hamper that free play of the imagination so necessary in this work. We understand that he has at different times been in charge of a stove factory and connected with a brokerage firm, which may exert some subtle influence in developing the ability to relieve suffering humanity, though the connection is not quite clear. One would imagine, however, that the keen business instinct, untrammelled by any considerations of conscience, which is exhibited in the exploitation of Alleotone, would in purely commercial pursuits have long since assured a competence.

—(From The Journal A. M. A., Oct. 17, 1908.)

BAUME ANALGESIQUE BENGUE

A physician writes asking for the formula of Baume Analgésique Bengué. This product is another of the "patent-medicine"-“ethical-proprietary” type of nostrums. In Great Britain, it is advertised to the public as “A Wonderful Remedy for Rheumatism, Gout, Neuralgia.” In this country, the exploiters find that space in cheap medical journals, reinforced by the aid of indiscriminating physicians, is a cheaper method of getting the stuff to the public. According to the statements of the manufacturers, Bengué’s Analgesic Balm contains “menthol, salicylate of methyl and lanolin.” When analyzed by the chemists of the British Medical Association, it was reported to have the following composition:

Menthol	18 per cent.
Methyl salicylate.....	20 per cent.
Lanolin, anhydrous.....	54 per cent.
A fat, apparently lard.....	8 per cent.

The estimated cost of the ingredients of a 50-cent tube of Bengué’s Analgesic Balm, according to the British chemists, is 2½ cents. Evidently this imposingly named product is practically a lanolin ointment containing oil of wintergreen and menthol. Similar products are catalogued by various pharmaceutical houses under various names and with varying degrees of frankness concerning their composition. Two firms give the medical profession full details regarding the composition of their products: The H. K. Mulford Company, who sell it under the name “Methyl Salicylate Ointment,” and the Pitman-Myers Co., who name their product “Anodyne Balm, P-M Co.” Some other firms are not so frank. Parke, Davis & Co., for instance, sell “a combination of methyl salicylate and menthol with a lanolin base” under the name “Analgesic Balm,” but do not give the quantities of the ingredients; Frederick Stearns & Co. sell “Analgesic Cream, Stearns” without giving the quantities; Nelson Baker & Co. sell “Anti-Neuralgic Ointment,” and no quantities are given.—(*From The Journal A. M. A., Dec. 14, 1912.*)

ANTIDIABETICUM—BAUER

In Germany the makers of nostrums, their methods and their products are systematically exposed by the Society for the Suppression of Quackery (*Deutsche Gesellschaft zur Bekämpfung des Kurpfuschertums*) through its publication, the *Gesundheitslehrer*, under the aggressive editorship of Dr. Kantor.

Ludwig Bauer,¹ the manufacturer of “Antidiabeticum,” inserted advertisements in daily papers asserting that for

1. According to a report in the *Allgemeine medizinische Central-Zeitung*, Jan. 6, 1912, p. 14.

his "humanitarian efforts" the society "Opera Educativa pacifica" in Rome had granted him a diploma and placed his publications in the celebrated "Bibliotheca Marciazzii." Dr. Kantor, editor of the *Gesundheitslehrer*, declared that, according to information received from the German Consulate in Rome, no such society existed there, and the library referred to probably was the Bibliotheca Marciana in Florence, which, like other public libraries, accepts all donations without critical examination. To offset these exposures, the promoter of Antidiabeticum published advertisements libeling Dr. Kantor and attacking the Society for Suppression of Quackery. This resulted in suits and counter-suits for libel between Dr. Kantor and the directors of the antiquackery society on the one side and the promoter of Antidiabeticum on the other. As a result of the recent combined trial, the court declared that Dr. Kantor's charges had been substantiated and the manufacturer of Antidiabeticum was fined 600 marks or forty days' imprisonment, while apparently on purely technical grounds Dr. Kantor was fined 50 marks or five days' imprisonment. The costs were divided between Bauer and Dr. Kantor in the proportion of 11 to 1. As Bauer in the course of the trial made further libelous charges, Dr. Kantor has lately started new proceedings against Bauer. The incessant persecution of Dr. Kantor was described in an editorial in *THE JOURNAL*, May 20, 1911, p. 1486.

The persecution of Dr. Kantor previously described shows no signs of abatement nor has Dr. Kantor given evidence of loss of courage. Some of the German medical societies have subscribed for the *Gesundheitslehrer* for each of their members. It is written in popular style for the masses and is a sharp and effective weapon for the campaign against quackery.—(*From The Journal A. M. A., April 27, 1912.*)

ANTI-KAMNIA

The Nostrum and Its Method of Exploitation

Our readers will be interested to learn some of the remarkable properties which, according to the statements of the manufacturers, this Antikamnia possesses. We quote from the advertising literature:

The well-known nerve specialist (?), Dr. Harley, in an interview published in the *London Daily Express*, says: "I have treated more than one American for nervousness and 'brain fag' directly due to their incessant energy. I had a young man in here this morning who complained of headache 'in the back of the neck.' He was threatened with congestion of the brain, and seemed somewhat aggrieved when I told him he had been trying to do too much. I also treated a young American woman who, since her arrival in London, had apparently been living on Antikamnia tablets by the advice of her physician. It was the only thing, she said, which kept her 'braced up' for the strain of sight-seeing."

(Why did the young woman consult this Dr. Harley—for the drug habit?)

Note the following:

For the severe pains of rheumatism, dysmenorrhea, neuralgia, gout, sciatica and lumbago, as well as for the lightning pains of locomotor ataxia, there can be no quicker and more lasting relief obtained than by the administration of Antikamnia and codeine tablets.

Imagine an intelligent physician trying to treat the diseases mentioned below with the various impotent means of the pharmacopeia and physiological therapy when he might depend on Antikamnia! We quote again:

As a Pain Reliever.—In headache, cephalalgia, hemicrania, migraine [some other words might have been thrown in so as still more to emphasize the headache business], myalgia, coryza, la grippe and its sequelae, the lightning pains of locomotor ataxia and all pains due to irregular menstruation.

As an Anodyne or Sedative.—In alcoholic delirium, indigestion, cardialgia, gastralgia, dyspepsia, hysteria, insomnia, inebriety, car-sickness, sea-sickness, worry and sight-seer's fatigue.

As an Antipyretic.—In typhoid, intermittent, puerperal and malarial fevers, bronchitis, pneumonia, pleurisy, and tuberculosis.

As an Anti-Neuralgic.—In acute or chronic neuralgia, facial neuralgia, earache, pain about the teeth, angina pectoris, neurasthenia, palpitation, pains of locomotor ataxia and sciatica.

As an Anti-Rheumatic.—In acute or chronic rheumatism and gout, fever and pleurpdynia.

There is no remedy so useful and attended with such satisfactory results as Antikamnia tablets in the treatment of melancholia with vasomotor disturbances, anemic headaches, emotional distress, and active delusions of apprehension and distrust. They increase arterial tension and promote digestion, as well as being particularly serviceable in relieving the persistent headache which accompanies nervousness.

In neurasthenia, in mild hysteroid affections, and in the various neuralgias, particularly ovarian, and in the nervous tremor so often seen in confirmed drunkards, they are of peculiar service. In angina pectoris this drug has a beneficial action; it relieves the pain and distress in many cases, even when amyl nitrite and nitroglycerin have failed entirely. In pseudo-angina, frequently observed in hysterical women, its action is all that can be desired.

Patients who suffer from irritable, weak, or palpitating heart, needing at times a pain reliever, can take Antikamnia tablets, without untoward after-effects, knowing that the heart is being fortified. In delirium tremens, they relieve when there are great restlessness, insomnia, the general lowering of the nerve power.

Only the vivid picture of a crisis in locomotor ataxia or the agony of a true migraine, can impress the observer with the full value of this pain reliever.

The following testimonials are from physicians:

Dr. Caleb Lyon, an old Bellevue practitioner, in referring to antikamnia and codein tablets, says:

In my practice they accompany the maid from her virgin couch to her lying-in chamber, assuaging the perplexities of maidenhood and easing the trials of maternity with most gratifying results. I earnestly hope that the proprietors of this valuable remedial agent will keep it up to its present standard of purity and excellence.

Dr. Walter M. Fleming, A.M., M.D., New York City, writes:

. . . With all the experience of more than a quarter of a century, in the treatment of winter cough, and all its complications of laryngeal, bronchial and pulmonary irritability, dyspnea, asthmatic spasms, and finally whooping cough—usually the most persistent and tenacious of all these membranous maladies—I find no one remedy more strongly indicated, or which yields more prompt and satisfactory results than Antikamnia and heroin tablets, composed of Antikamnia 5 grains and heroin hydrochloride 1/12 grain. . . . Result: a prompt and efficient expectorant, at once relaxing the harsh and rasping cough, releasing the tenacious, sticky and gelatinous mucus which is soon readily expectorated, while the soothing influence of the Antikamnia is at once manifested, greatly to the comfort and contentment of the patient.

. . . Independent of the fact of the direct applicability of this remedy to the various membranous maladies of the lungs, bronchi, fauces and nose, it proves also, an invariable remedy in all febrile cases where anodyne is required. This, together with its analgesic and antipyretic merits, eminently qualify this combination for a responsive agent in the treatment of nearly all the numerous febrile attacks characterized by pain, nervousness, insomnia and their accompanying symptoms.

"Antikamnia and Quinin"

If there is any virtue in the particular combination known as "Antikamnia," a physician prescribing the tablets supposed to contain combinations of "Antikamnia" and some other drugs should have some guarantee that they contain those remedies. Take, for example, the tablets advertised and sold as "Antikamnia and quinin." It might reasonably be supposed that the tablets contained the combination known as "Antikamnia"; this, however, seems not to be the case. Previous analyses, as published¹ by us, have shown that antikamnia contains approximately 20 per cent. of sodium bicarbonate, yet two chemists, working separately, have been unable to find this ingredient in the tablets advertised and sold as "Antikamnia and quinin." Are we to understand, therefore, that the manufacturers do not consider the bicarbonate of sodium of importance in their preparation, Antikamnia; or are they guilty of misrepresentation and of misleading physicians in omitting this constituent from their product Antikamnia when that is combined with the bisulphate of quinin? The above statement regarding the omission of bicarbonate of sodium from the quinin combination may be verified by any physician who desires to make a few simple chemical tests—carbonic acid is not given off when the tablets are treated with dilute acids, as would be the case if sodium bicarbonate were present. Further, while the ordinary Antikamnia contains no constituent not soluble either in water or in chloroform, and while quinin bisulphate is readily soluble in water, the tablets said to contain Antikamnia and quinin bisulphate, when treated successively with water and with chloroform, leave a residue of more than 18 per cent.

1. THE JOURNAL A. M. A., June 3, 1905; reproduced on page 9 of this book.

One of the chemists who analyzed the preparation for us, in commenting on this in a letter, says: "The matter which is insoluble in water, alcohol or in chloroform, i. e., the substance which is neither 'Antikamnia' nor quinin bisulphate, amounts to more than 18 per cent. in 'Antikamnia and quinin bisulphate tablets.' The tablets weigh close to five grains and are said to contain 2.5 grains each of Antikamnia and quinin bisulphate. How is this possible when each tablet contains almost one grain of foreign substance (chiefly starch)?"

Further comment is superfluous. We have presented facts to our readers and leave them to draw their own conclusions. —(*From The Journal A. M. A., July 1, 1905.*)

Adding Insult to Injury

When the Council on Pharmacy and Chemistry began its work of independent and scientific investigation of proprietary preparations, some of the questions asked were:

"What guarantee has the medical profession that the formulas of these proprietary medicines are not changed at the will of the manufacturers? How can the physician who confidently prescribes them for his patients know that the preparation which he orders to-day is the same as that which was furnished him last year, or which may be given him next year, under the same name?"

At once a wail, as of injured innocence, went up from countless venders of proprietary medicines, who replied with one voice:

"The honor and reputation of the proprietors and manufacturers is sufficient guarantee of the stability and permanence of these preparations."

So vehement were their protestations and so well simulated were their declarations of Pecksniffian virtue that many physicians were deceived thereby. Many medical journals (whose views were, perhaps, slightly biased by the consideration of fat advertising contracts) also were apparently convinced. But the fact was overlooked that guarantees based on honor are of value only in proportion to the amount and quality of honor possessed by the guarantors.

The enactment of the national Food and Drugs Act is bringing many things to light. Some of them are interesting, some would be amusing were they not so utterly despicable. Among other things, it has furnished a demonstration of the value of the "honorable assurances" of nostrum venders.

The nostrum Antikamnia has pointed out many a moral in the campaign in the last two years. It was hardly to be hoped that it would deliberately furnish a demonstration of the utter lack of honesty on the part of a certain class of proprietary manufacturers. Yet, relying apparently on

the ignorance of the public and the long-continued lethargy of the medical profession, its promoters have, in the last few weeks, unwittingly convicted and stultified themselves. When the pure food law went into effect, the proprietors of this mixture found themselves in a sad dilemma; if they labeled their mixture in accordance with the provisions of the law they would have to admit that it contained acetanilid and that the charges against them were true. Failing to comply with the law, they must go out of business. The latter alternative was not to be thought of. The profits gained by selling, with the aid of careless or ignorant physicians, a five- or ten-cent mixture for \$1 were too great to be surrendered without a struggle. The same brilliant intellect, perhaps, that first saw the commercial possibilities in the business said: "Change the formula. Phenacetin is about as cheap as acetanilid; the patent has just expired and consequently we can get it at a low price. Let us substitute phenacetin for acetanilid."

As a result the profession is treated to an edifying exhibition of virtue triumphant, a wolf so completely covered by the harmless coat of a sheep that he flatters himself that his wolfish nature is completely concealed. No longer are skulls and skeletons sent out in calendar form as grinning advance agents to be displayed in every doctor's office, but instead a beautiful domestic scene, showing a convalescent child nestling in the arms of its mother. The familiar "AK," however, as usual, is in the lower right-hand corner. And what a change in labels! No longer is Antikamnia a chemical entity, but the label now openly but ingenuously declares that "Antikamnia tablets in this original package contain 350 grains of acetphenetidin, U. S. P., per ounce. Guaranteed under the Food and Drugs Act, June 30, 1906. Serial No. 10." While, below, as an entirely unnecessary display of conformity to the Pure Food Act, appears this statement:

The Antikamnia tablets in this original ounce package contain no acetanilid, antifebrin, antipyrin, alcohol, morphin, opium, codein, heroin, cocain, alpha- or beta-eucain, arsenic, strychnin, chloroform, cannabis indica or chloral hydrate.

Truly, Satan is appearing as an angel of light. What a gratification it is to the long exploited profession to know that Antikamnia contains no alcohol, no chloroform, no cannabis indica, no chloral hydrate. How unfortunate that this spontaneous display of confidence is not carried far enough to inform the profession of the ingredients, aside from phenacetin, contained in the mixture!

The label is an admission that the nostrum does not contain what it was never supposed to contain, with the exception of acetanilid, and is directly an attempt to conceal the real contents. The proprietors know that the dear public, whose

"pains, headaches, neuralgias, women's aches and ills, grippal neuroses, nervousness, insomnia, rheumatism, lightning pains of locomotor ataxia, sciatica, etc.," they are longing to assuage, will not know that acetphenetidin is the official designation for what is popularly known as phenacetin, and that this dangerous product is found in the new mixture in the proportion of approximately 4 grains to a 5-grain tablet. Evidently they also presume considerably on the ignorance of our profession, or why should they make the brazen

Antikamnia Tablets

Adult Dose: Two every two or three hours.

FOR HEADACHES

NEURALGIAS, LA GRIPPE, PAIN AND FEVER

ANTIKAMNIA TABLET

FAC-SIMILE

PRESCRIPTIONS

FOR PAIN—(No matter where)
 Dose:—Two tablets.
COLD IN THE HEAD—(La Grippe)
 Dose:—Two every three hours.
FEVER—(Febrile Conditions)
 Dose:—One every two hours.
HEADACHE—(All Kinds)
 Dose:—Two, repeat two hours.
HEAT EFFECTS—(Dizziness)
 Dose:—Two every three hours.
MELANCHOLIA—(From Worry)
 Dose:—One every two hours.
NEURALGIA—(All Kinds)
 Dose:—One every two hours.
OVERWORK—EXHAUSTION
 Dose:—One every two hours.
SHOPPER'S or SIGHTSEER'S HEADACHE
 Dose:—Two every three hours.



LIGHT ON PAIN

For Samples and Literature, Address
**THE ANTIKAMNIA
 CHEMICAL CO.,**
 St. Louis, U. S. A.

ANTIKAMNIA-CODEINE TABLET

FAC-SIMILE

PRESCRIPTIONS

FOR COUGHS AND COLDS
 Dose:—One dissolved on tongue.
BOWEL TROUBLES—(Dysentery and Pain)
 Dose:—One every two hours.
HYSTERICAL CONDITIONS
 Dose:—One every hour or two.
INSOMNIA—PESTILENCE
 Dose:—One at bed-time.
MIGRAINE—HEMICRANIA
 Dose:—One every hour.
NERVE SEDATIVE
 Dose:—One every three hours.
NEURALGIA—(Gripes)
 Dose:—One every two hours.
OVARIAN PAIN
 Dose:—One every three hours.
WOMEN'S ACES AND ILLS
 Dose:—Two every three hours.

Antikamnia Tablets

The name itself suggests what Antikamnia Tablets are, and what their remedial characteristics are—Anti (Greek Anti), Opposed to—and Kamnia (Greek Kainos), Pain—thus we have "ANTIKAMNIA" which means "OPPOSED TO PAIN," a remedy to relieve pain and suffering. The genuine Antikamnia Tablets always bear the AK monogram and are, on account of their convenience and accuracy, recognized as the most approved form for taking the remedy.

—The Journal of Medicine.

ANTIKAMNIA & CODEINE TABLETS

FOR WOMEN'S ACES AND ILLS

FOR SALE AT ALL DRUGGISTS

A reduced reproduction of a full-page Antikamnia advertisement appearing in the *New York World Almanac*, 1911.

statement that four grains of phenacetin is the "most reliable remedy" for the long list of diseases enumerated on their advertising calendar?

When the formula for which such wonderful virtues were claimed was suddenly thrown overboard, was the medical profession, which by its short-sighted patronage had built up this business, notified in any way of the change? Search the new advertising matter of this nostrum from beginning to end and you will not find one word to show that

"The Antikamnia tablets in this original ounce package" differ in the slightest particular from those sold to the profession and the public for years past. This being true (and the statements of the promoters themselves are our authority for it), what remains of the pratings of "honor" and the "guarantee of the manufacturers"? Has a physician no right to know when a change is made in the formula of a preparation which he has been prescribing for years?

What assurance has the profession that, at any moment, a cheaper or more dangerous drug may not be substituted for "acetphenetidin" if thereby the law can be evaded or the profits of the delectable business enhanced?

How can any conscientious physician prescribe, for those who confide their lives to his care, a preparation the stability of the formula of which must depend absolutely on its owner's whim?

How can a physician with the slightest sense of responsibility to his patients allow his office to be used as a free advertising bureau for a preparation manifestly founded and developed on deceit and misrepresentation?

How can any medical journal, except those avowedly and unblushingly seeking to aid the nostrum maker to exploit the profession, whose interests they claim to serve, continue to carry the deceptive and misleading advertisement of a twice exposed fraud?

How can any physician with a particle of self-respect or manhood continue to support, by subscription or contribution, any medical journal which, by accepting such advertising, allies itself with the army of deceit and chicanery? —(*Abstracted from The Journal A. M. A., Jan. 26, 1907.*)

Still Further Duplicity

When the Food and Drugs Act went into effect the manufacturers of this preparation, instead of continuing to put out the same mixture as they had been doing radically changed the composition by substituting acetphenetidin (phenacetin) for acetanilid. By doing this the company avoided the disagreeable necessity for acknowledging on the label that the nostrum contained acetanilid, as was shown by the analysis published in *THE JOURNAL*, June 3, 1905. In addition to stating that the package of Antikamnia contained acetphenetidin, the company also stated that it contained no "acetanilid, antifebrin, antipyrin, alcohol, morphin, opium, codein, heroin, cocain, strychnin, chloroform, cannabis indica, or chloral hydrate." Knowing that the nostrum was being advertised in Great Britain and Canada as well as in the United States, *THE JOURNAL* obtained some Antikamnia from London, and it was analyzed in the Association's laboratory. As was suspected, the analysis showed that Antikamnia as sold abroad has the same composition

now as it had in the United States before the Food and Drugs Act went into force, viz.: Acetanilid, 67.75 per cent.; caffeine, 4.88 per cent., and citric acid and sodium bicarbonate, by difference, 25.36 per cent. This corresponds with the analysis previously made and published in *THE JOURNAL*, June 3, 1905. The Antikamnia on the market in this country was also analyzed and it was found to contain: acetphenetidin (phenacetin), 72.05 per cent.; caffeine, 13.95 per cent.; citric acid and sodium bicarbonate, 14 per cent. The preparation sold as "Antikamnia and Quinin" was also analyzed, and it was found that starch had been substituted for the bicarbonate of sodium which is found in the Antikamnia itself. The details of the analyses are given with the following comments: "The above are brief statements of bald facts. Two of these should be emphasized: (1) When the Food and Drugs Act went into force, January, 1907, the manufacturers of Antikamnia, rather than acknowledge the truth of the past—we can imagine no other reason—materially and radically changed the composition of their preparation, and did this without notifying the medical profession or intimating in any way, so far as we can learn, that such a change had been made. We have no doubt they believed they had a right to do as they pleased with their own; that it was nobody's business but theirs what they did with their own preparation, or how they changed it. As they never had told physicians what it contained, there was no reason why they should do so now. This is logical and we cannot blame the manufacturers so long as the medical profession is willing to be humbugged. (2) For the same reason, we presume, they claim that they have a right to continue to use acetanilid in the product for the foreign market. The Food and Drugs Act applies only to the United States, of course, and acetanilid being cheaper, why not use it? What is the difference if one is more dangerous than the other? The fact that the Antikamnia sold abroad differs from that sold in this country some may say is of no special interest to us. Still this fact is worth noting: The dose of acetphenetidin—phenacetin—(7½ grains) is nearly double that of acetanilid (4 grains): one becoming accustomed to a certain dosage of the nostrum as sold in this country might, while abroad, unwittingly be led to take a double dose of acetanilid.—(*Abstracted from The Journal A. M. A., Feb. 8, 1908.*)

Samples, Form Letters and "Prescriptions" Sent to the Laity

To the Editor:—The enclosed "literature" is being sent broadcast to the laity by the Antikamnia people and still a great many of the physicians throughout the country are prescribing the preparation thus advertised. Will the time ever come when the medical fraternity will awaken to the

fact that it has been humbugged by a great many manufacturing concerns? I certainly hope so.

J. W. DuVAL, M.D., Wichita Falls, Texas.

COMMENT:—The "literature" referred to by our correspondent consists of a form letter and a small pamphlet. The letter was similar to the one reproduced herewith.

The pamphlet accompanying the letter is entitled "Practical Prescriptions," and contains a list of diseases and morbid


FRANK A. RUF, PRES'T & TREAS.
JOHN W. COX, SECRETARY

The Antikamnia Chemical Co

—INCORPORATED—

Laboratories and Home Offices

1622-1624 PINE ST. ST. LOUIS, MO.



Characteristics of Antikamnia Tablets

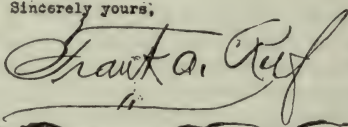
SAFETY—CERTAINTY—CELERITY

St. Louis, U. S. A.

April Twentieth
1910

Dear Mr. ~~Wichita Falls~~—

Do you ever suffer pain? If so,
try Antikamnia Tablets! Sample enclosed.
Your druggist will supply them in any quantity (10 cents worth or more), also in our
"Vest-Pocket-Boxes", as below.

Sincerely yours,


states arranged alphabetically from "Alcoholism," "Asthma" and "Backache," to "Wind," "Women's Pains" and "Worry." For the one hundred and twenty-two conditions listed, "Antikamnia," "Antikamnia and Codein" or "Laxative Antikamnia and Quinin" are prescribed, demonstrating that the "prescriptions" are more "practical" than scientific.

In many respects the methods of the proprietors of "headache powders" and "anti-pain pills" are less offensive to one's sense of professional decency than the course pursued by the Antikamnia people. The former have at

least never recommended their products as "ethical proprietaries"; they have not used medical men as their unpaid agents; the claims made for their products have been no more exaggerated; and they have not found it necessary, from the requirements of the Food and Drugs Act, to substitute acetphenetidin for acetanilid to avoid giving the lie to their former claims.

As to the query propounded by our correspondent: We are optimistic enough to believe that the time he longs for is already here. The fact that the proprietors of nostrums of the Antikamnia type are finding it necessary to advertise to the laity is, in itself, evidence of the diminishing demand for such products on the part of the medical profession.—(*From The Journal A. M. A., April 18, 1908.*)

Antikamnia in America and Great Britain

The following letter from the Antikamnia Chemical Company to THE JOURNAL was received about August 1, 1912:

"You have at various times represented in your JOURNAL that the Antikamnia sold in foreign countries, particularly in Great Britain, has a different formula from the Antikamnia sold in the United States, and you have also published alleged formulas of each to show wherein they are supposed to differ.

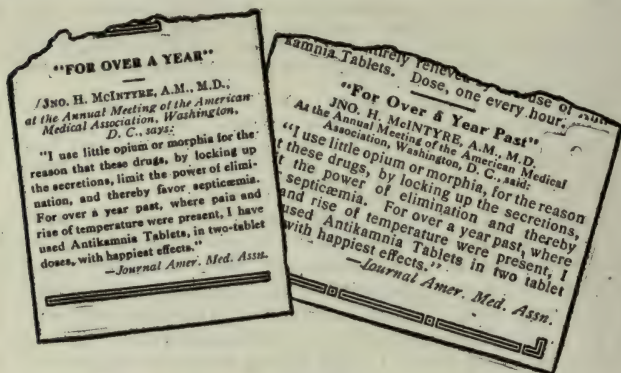
"We hereby respectfully notify you that the Antikamnia formula is the same for all countries, and the publication of any statements to the effect that the formula of Antikamnia is different in Great Britain, or any other foreign country, from that sold in the United States is a libel, and will be prosecuted as such."

On the receipt of this a letter was written to a correspondent in London requesting him to purchase in the open market a package of Antikamnia. This was done and the original sealed package reached the Association's laboratory a few days ago. Careful analysis of this specimen shows it to contain acetanilid but no acetphenetidin, while the Antikamnia sold in the United States contains acetphenetidin but no acetanilid. The company's protest to the contrary notwithstanding, the formula of some Antikamnia, at least, is still different in Great Britain from that sold in the United States. It is possible, of course, that some time in the future the composition of every package of this nostrum on sale in the United Kingdom will be similar to that of every package sold in the United States. It is even possible that "Antikamnia & Quinin" tablets will—or do—actually consist of quinin and the mixture called Antikamnia—although, as THE JOURNAL has shown, this has not been the case in the past. Since the patent expired on acetphenetidin, this drug has become so cheap—it can be bought at wholesale for less than 6 cents an ounce—that, commercially it must make very little difference whether acetanilid or acetphenetidin is used in the manufacture of Antikamnia. But the question arises: Have our British confrères been notified of the change in formula? A careful study of

the Antikamnia advertisements in English medical journals shows that the British medical profession has been given no more consideration by this concern than was the American medical profession when the change in composition was made on this side. But then why should it be? Physicians, British or American, who are addicted to the prescribing of secret proprietaries such as Antikamnia have little need of formulas—"Theirs not to reason why!" The medical profession on both sides of the Atlantic has never known the exact composition of Antikamnia and does not know it now. Physicians who call for preparations of the Antikamnia type are prescribing names, not drugs.—(*From The Journal A. M. A., Oct. 26, 1912.*)

Again, Antikamnia

In season and out of season THE JOURNAL has exposed the Antikamnia fraud until it would seem that its readers would become weary of the very name. There is nothing



Reproductions of portions of pages in the booklets sent out by the Antikamnia Chemical Company to physicians (on the right), and laymen (on the left), respectively. Those who do not realize the character of the Antikamnia concern naturally imagine the quotation here given from THE JOURNAL is a comparatively recent one. Notice that no dates are given. As a matter of fact, it is twenty-two years old. Dr. McIntyre, who wrote it, has been dead eleven years.

new to say about this dangerous stuff, and yet the number of inquiries indicates that thousands of THE JOURNAL's readers do not know of the previous exposures. More than fifteen years ago THE JOURNAL ceased carrying the Antikamnia advertisement; more than ten years ago it notified its readers that the nostrum was being advertised to the public by means of circular letters; more than six years ago it proved that, when the Food and Drugs Act went into effect, acetphenetidin had been substituted for acetanilid in Antikamnia evidently in order that the presence of the older drug, of whose dangers the public had been made aware might not have to be admitted; more than five years ago

THE JOURNAL showed that the Antikamnia sold in the British Isles still contained acetanilid, and as late as last October it verified this statement although threatened with prosecution for libel by the Antikamnia Chemical Company.

Yet, in spite of all these exposures, not a week passes that we do not receive one or more letters calling attention to the Antikamnia fraud. Most of these letters deal with one, or more, of three points: first, the fact that the stuff is being advertised to the public by means of circular letters and that sample "vest-pocket boxes" of this dangerous drug are being sent through the mail to laymen; second, that Antikamnia is being advertised in newspapers, and, third, that in the booklets sent out by the Antikamnia Chemical Company both to the medical profession and to the public, a paragraph is quoted from an article by Dr. John H. McIntyre that appeared in THE JOURNAL.



Photographic reproductions of two typical Antikamnia advertisements now appearing in newspapers all over the country. These tablets are advertised in various newspapers as being "safe" and neither "depressant" nor "habit-forming"—three separate and distinct falsehoods.

The first two points have already been discussed so frequently that it seems hardly worth while to take them up again in detail, though it might be said that the medical profession has at last become so familiar with this widespread humbug that the Antikamnia Chemical Company has finally gone over body and soul to the newspapers. So far as we can learn only three publications professing to be medical journals still carry the Antikamnia advertisement. These three are:

*Southern Practitioner
Therapeutic Record*

Pacific Medical Journal

As is usual in such cases, the British medical journals are not so particular, and we still find Antikamnia advertised in:

*Medical Press and Circular
Glasgow Medical Journal
Journal Tropical Medicine and Hygiene
Dublin Journal Medical Science*

*Lancet
Canada Lancet
Practitioner*

The reproduction of the McIntyre quotation is evidently adopted by the Antikamnia concern as a means of "playing even" with THE JOURNAL for the unpleasant things it has said about it. In quoting Dr. McIntyre, the Antikamnia Chemical Company carefully avoids giving the date on which the article appeared. As a matter of fact, the article was printed in THE JOURNAL over twenty years ago (July 4, 1891), and Dr. McIntyre himself has been dead for eleven years. Presumably, however, the Antikamnia Chemical Company will continue to mislead, either directly or by inference; until the end of the chapter.—(*From The Journal A. M. A., April 12, 1913.*)

ANUSOL SUPPOSITORIES

"In Hemorrhoids and all Inflammatory Rectal Diseases, let your first thought Continue to be Anusol Hemorrhoidal Suppositories; they have Earned your lasting Confidence." Thus speaks an attractive folder recently sent to physicians. With a prodigal use of superlatives, the medical profession is told that these suppositories have for years "maintained their World-Wide Reputation" as the "Most Effective, the Safest . . . the Most Economical and . . . the Most Credit-Bringing of all Topical Rectal Remedies." The short memory of the public is notorious; from the point of view of the proprietary exploiter, the short memory of the medical profession must be equally well known. How, otherwise, would a firm try to make physicians believe that a product had "earned" their "lasting confidence" when the result of an examination by the Association's chemists, published in THE JOURNAL,¹ had shown that Anusol Hemorrhoidal Suppositories contained practically no "anusol." Moreover, as the Association's findings were a practical verification of the findings of a foreign chemist who also had failed to find any "anusol" in Anusol Suppositories, it is not quite clear what is meant by the term "world-wide reputation." Incidentally, the observant physician will notice that the list of the ingredients given on the Anusol Suppositories labels of 1913 differ from those of the vintage of four years ago. The label of the old boxes gave the ingredients thus:

Bismuth. iodo-resorcinsulfon (Anusol), Zinc oxydat. pur., Balsam Peruv., Ol. cacao, Unguent cereum.

On the latest label, however, we find these ingredients given:

"Bismuth oxyiodid and resorcinsulphonate with Zinc oxid and Balsam Peru, incorporated in suitable base."

What will the formula be four years hence?—(*From The Journal A. M. A., Oct. 11, 1913.*)

1. Oct. 2, 1909; see p. 227 of this volume.

ANUSOL SUPPOSITORIES

To the Editor:—In the "Propaganda for Reform" department of the October 11 issue of THE JOURNAL, you published a short notice on Anusol Suppositories. We desire to correct the impression which your readers may have received, viz.: that there is any actual difference between Anusol Suppositories of the present and Anusol Suppositories of the past. We wish, therefore, to state that the composition of Anusol Suppositories has not been changed; the only modification that we have made is a revision of the label to the effect that the active medicinal ingredient of the preparation is a mixture of bismuth oxyiodid and bismuth resorcinsulphonate in place of bismuth iodoresorcinsulphonate. The latter was originally claimed by the manufacturers, discovered to be doubtful by an investigation in the laboratory of the American Medical Association, as well as by one on the part of a foreign chemist, and finally disproved to our satisfaction by an independent investigation on our part. We feel that the remark "What will the formula be four years hence?" will carry the impression to your readers that the composition has frequently been changed and is likely to be changed again, and it is for this reason that we request the above correction and an assurance to the contrary.

The statement in the note that "Anusol Suppositories have been proved to contain no Anusol" is also likely to create an entirely erroneous impression. We dropped the use of the word "anusol," as designating a definite chemical substance more than two years ago, and changed all our propaganda matter accordingly. SCHERING & GLATZ.
—(*From The Journal A. M. A., Jan. 31, 1914.*)

ASPIRO-LITHINE

Aspiro-lithine is another comparatively new example of the custom of proprietary manufacturers in putting forward old drugs under a new name and with them bidding for the favor of physicians. An inquiry has been received concerning this mixture. It is prepared by McKesson & Robbins and is said to contain in each tablet 5 grains of acetylsalicylic acid (aspirin) and $2\frac{1}{2}$ grains of acid citro-tartrate of lithium. It is recommended for all the purposes for which acetylsalicylic acid is commonly used, and on account of the lithium added is claimed to have much greater virtues than either of these drugs alone or of both combined.

We had hoped that the time had passed for reputable houses to employ such time-worn methods, but probably they will not stop so long as physicians encourage them by continuing to use such preparations. Acetylsalicylic acid is a good drug, whose value is pretty well known. It is further known that lithium salts do not possess any great medicinal virtue. Just what acid citro-tartrate of lithium may be is

hard to tell, for chemistries do not recognize such a substance. The name presumably is intended to hide the real nature of the preparation.

But if there be any advantage in combining lithium salts with acetylsalicylic acid in a prescription, it is a simple proposition and requires no great skill, either on the part of the physician who writes the prescription or on the part of the druggist who puts it up, and such mixtures as aspiro-lithine, with the exaggerated claims made for them, should be avoided in the physician's prescribing.—(*From The Journal A. M. A., May 28, 1910.*)

BELL-ANS (PA-PAY-ANS, BELL)*

Another "Patent Medicine" Foisted on the Public Through the Medical Profession

With such nostrums as Antikamnia and Resinol fresh in mind as flagrant examples of "patent medicines" introduced to the public through the medical profession, what follows regarding Bell-ans, or, as it is better remembered by physicians, Pa-pay-ans (Bell) will take on an added interest. Briefly, Bell-ans is the new name of a tablet that, according to chemists' reports, is essentially charcoal, baking soda and ginger, flavored with oil of wintergreen. Its selling point, in the past at least, has been the alleged presence of papain. This drug, Bell & Co. allege, is present in their tablets and they claim is "the digestive principle obtained by our own exclusive process from the fruit of *Carica papaya*." As long ago as 1909, the Council on Pharmacy and Chemistry attempted to find papain present in what was then called Pa-pay-ans (Bell) and to determine the digestive power of the tablets but with negative results.

The efforts of other chemists were equally unavailing.

In January, 1914, Bell and Company changed the name of the product "Pa-pay-ans (Bell)" to "Bell-ans." As THE JOURNAL remarked soon after, it seemed probable that, as the name of a nostrum of this kind is the manufacturer's most valuable asset, the name was hardly changed, as was alleged, for purely euphonious reasons. It seemed more likely that as analyses had indicated there was not, and probably never had been, any appreciable amount of papain in the product, the change of name might be due to the fear that some day the misleading name might bring the preparation in conflict with the federal Food and Drugs Act.

For years physicians have realized that the methods of exploitation of Pa-pay-ans (Bell) have been such as to make the medical profession a vast free advertising agency for the nostrum. So far as we know Pa-pay-ans (Bell) has never been advertised in lay journals—newspapers, etc. Certain

* See also report on Papayans Bell, p. 151.

medical journals, however, have, for a long time, carried the advertisements of Pa-pay-ans (Bell)—and later of Bell-ans—while Bell & Co. has been lavish in its distribution of free samples, blotters and other advertising paraphernalia direct to the medical profession.

Now it seems Bell and Company are going direct to the public by means of vest-pocket samples and letters. The

CABLE ADDRESS "PA-PAY-ANS"

TELEPHONE 230 WESTMONT

BELL & COMPANY
INCORPORATED
MANUFACTURING CHEMISTS
LABORATORY & OFFICES:
ORANGEBURG, NEW YORK, U.S.A.

PA-PAY-ANS BELL
FOR THE TREATMENT OF
INDIGESTION
NEW NAME
BELLANS
ADOPTED JANUARY

EUROPEAN AGENCY:
THOS. CHRISTY & CO.
4-12 OLD SWAN LANE
UPPER THAMES ST.
LONDON, ENGLAND.

AGENCY FOR:
ASIA & AFRICA
MULLER MACLEAN & CO.
CALCUTTA, INDIA.

Dear Sir:-

Please accept, with our compliments and good wishes, this pocket box of our product BELL-ANS.

We have been making BELL-ANS for nearly twenty years and over one hundred thousand physicians are now prescribing it. It is perfectly harmless, as any druggist will tell you, and it certainly relieves indigestion and sweetens the breath.

Kindly oblige us by giving BELL-ANS a trial and, if you like, write us of the results.

With kindest regards, we are,
Sincerely yours,
Bell & Co. (Inc.)

Dec. 24th, 1914.

Miniature facsimile of a letter received by a layman. It was accompanied by a small box of Bell-ans. Two points are worth noting: ". . . one hundred thousand physicians are now prescribing it"; "any druggist will tell you" that it is perfectly harmless!

letter, a miniature facsimile of which we reproduce, is one addressed to laymen and accompanies a vest-pocket box of the nostrum.

Here are some of the things that Bell and Company claim Bell-ans will do:

"It removes flatulence, vertigo, weakness and other symptoms of indigestion quickly and pleasantly."

"It relieves vomiting in pregnancy, alcoholism, seasickness and cholera morbus. . . ."

"To promote appetite, digestion and the elimination of toxic and waste material prescribe the Bell-ans. . . ."

". . . . prevent eruptions, nausea, vertigo, pain, etc. . . ."

". . . . remove distention, pain, weakness, depression, etc. . . ."

"There is no derangement of the digestive organs upon which the proper dose of Bell-ans (Pa-pay-ans, Bell) will not act quickly, pleasantly and favorably. . . ."

There is no physician living who really believes such claims as these! Yet on the medical profession rests the responsibility for the exploitation of this nostrum. Those medical journals which accept advertisements for things of this kind are not so much to blame as those physicians who unprotestingly tolerate the journals that do so. Privately owned medical journals are published, usually, as a commercial proposition; they reflect, to a greater or less extent, the attitude of their readers, subscribers and contributors. There are at least three medical journals which carry the advertisements of Bell-ans. They are the *New York Medical Journal*, the *International Journal of Surgery* and the *Massachusetts Medical Journal*.

Bell-ans (Pa-pay-ans, Bell) possesses the virtues—and they are few—and the limitations—and these are many—inherent to a mixture of bicarbonate of soda, ginger and charcoal. Any druggist could put up just as good a remedy, and any physician could write a prescription for a better one in those cases in which he might think it indicated. The whole secret of the commercial success of Bell-ans lies in the mystery of its composition and the fraudulence of the claims that have been made for it. The same tablets put out under a non-proprietary name, as an open formula and with claims that were reasonable and true, would have had practically no sale. The commercial success of Bell-ans is a monument whose foundation rests equally on the unscrupulousness of the manufacturer and on the gullibility of a learned profession.—(*From The Journal A. M. A., Jan. 16, 1915.*)

BIOSOL

Dr. A. N. Lakin, State Line, Ind., writes:

"Kindly advise me concerning Biosol. I am sending you herewith a pamphlet describing this product. On the last page note clinical report from Dr. Buchman of the Indiana Medical Association and president of the Department of Public Health, Fort Wayne, Ind."

H. Hille, once of Heidelberg, now of Oak Park, Ill., having reached the conclusion that mineral starvation is the cause of all diseases, devoted his talents to finding a remedy. He claims to have found it and calls it "Biosol."

He published his discovery in a pamphlet entitled "Facts of Modern Science," and recently published an article in the *Medical Record* giving his ideas on this mineral point of view. Biosol is an indescribable mixture of alcohol, carbohydrates, and many and various mineral bodies—ranging all the way from sodium, potassium, calcium and magnesium to silicon, copper, uranium and thorium—the amount of each being in most cases extremely minute. It is said to be a valuable food as well as medicine. A dose of this food might keep a rabbit alive for several hours, and a man who could stand the expense and escape death from delirium tremens might live on three quarts of the mixture per day. Human beings have little occasion to fear mineral starvation, and may obviate whatever danger there may be with a drink of milk. Like other living creatures, we may be thankful that we are furnished in our own bodies with a living bioplasm which can use the minerals of the waters and the rocks and which has its own laboratory in which to prepare organic compounds to suit its needs.—*(From The Journal A. M. A., March 8, 1913.)*

BROMIN-IODIN COMPOUND

The Life-History of a Nostrum

A correspondent writes for information concerning a remedy known as Bromin-Iodin Comp., which he says is manufactured by the Bromin-Iodin Chemical Company, formerly of Binghamton, N. Y., but now located in San Diego, Calif. In THE JOURNAL for Feb. 5, 1898, appeared an article by Dr. C. W. Ingraham, Binghamton, N. Y., entitled "Five Years' Successful Experience with a Special Mode of Treating Pulmonary Tuberculosis." This "special mode" of treatment consisted in using what Dr. Ingraham called "bromin-iodin compound," which he said had the following formula:

Iodin	gr. 1/2
Bromin	gr. 1/14
Phosphorus	gr. 1/100
Thymol	gr. 2/3
Menthol	gr. 2/3
Sterilized oil.....	fl. dr. 1

This "hypodermic treatment of phthisis" was widely advertised in the late nineties by the Bromin-Iodin Chemical Co., Binghamton, N. Y., and was but one of the innumerable "treatments" for pulmonary tuberculosis that have risen, had their day and, more or less gracefully, retired. It was first sold "to physicians only" for hypodermic administration. In 1906, however, physicians were told by the company that "if we find it impossible to secure your cooperation . . . we will be compelled to do business with the druggists in your locality . . ." Apparently

they found such cooperation impossible, because a leaflet was issued to the laity and the statement was made that they intended to advertise "all over North America in publications of national and international circulation, as well as in local newspapers . . ." Naturally the laity couldn't be expected to administer this treatment by the hypodermic method and it is not surprising to read that "experiment has proved that the same solution can be taken internally." In addition to the advertising leaflet, the public also was provided with a "pocket calendar good for 200 years" which contained numerous testimonials from physicians laudatory of the "bromin-iodin" treatment. The layman who received one of the leaflets was told that if he was suffering from "asthma, bronchitis, colds, consumption, coughs, eczema, goiter, hay fever, neuralgia, rheumatism . . . also constipation and kidney troubles," and his recovery was "not as rapid as it should be," should, moreover, his physician refuse to use the bromin-iodin compound "it might not be a bad idea to discharge him" and get a physician who would!

At the time this "treatment" was first tried by its "inventor," the results given in fifty cases were: First stage, 90 per cent. cures; second stage, 50 per cent. cures; third stage, no cures, but improvement in several cases; this was in 1895. It now appears that this "treatment" has after a period of "patent-medicine" exploitation come back into the "ethical proprietary" field. Presumably a mixture such as that represented by the "formula" did not lend itself to administration by mouth; there was nothing to do, therefore, but enlist the aid of "easy" physicians in furthering its sale.—(*From The Journal A. M. A., June 4, 1910.*)

CALMINE

New Names for Old Drugs

"Calmine, the new Hypnotic," is another example of the ingenuity of the exploiters of proprietary preparations in coining new names for old drugs and the recklessness with which exploiters herald forth renamed remedies to the profession and the public as new and wonderful discoveries.

This is what the promoters, sustained by a calm confidence in the credulity of the profession, have to say:

In the medical circles throughout the country a good deal of interest and even enthusiasm over this new hypnotic is noticeable. Very few drug products have attracted so much attention as this one.

A really satisfactory hypnotic and sleep-inducer, which Calmine certainly seems to be, has been awaited expectantly for many years. Of course, we have always had agents of this sort—a new one has come

out at frequent intervals—but none of them have “filled the bill”; they have been prescribed only because there was nothing better to be had.

Now this new and wonderful discovery is nothing but Veronal-sodium (sodium diethyl-barbiturate) under another name. It is the sodium salt of the more or less favorably known hypnotic, Veronal (diethyl-barbituric acid). It is also sold as Medinal, and differs from Veronal only in that the combination with sodium has made it more readily soluble, and thus, it is claimed, its absorption is more prompt. Veronal is protected abroad by a trade-mark and in this country by a patent, and this, undoubtedly, is responsible for the introduction of this sodium salt under these fanciful names, because Veronal could not be sold without infringing on the patent. This in turn induced the manufacturers of Veronal, in self-protection, also to put the sodium salt on the market, and now we have it under the name of Calmine. This probably is only the beginning; soon we may look for it under a host of other names and the usual result will follow: thoughtless physicians who have had poor results with it under one name will try it under others. Or worse still, physicians will thoughtlessly combine Veronal with Calmine or with Medinal in the same prescription, thus giving a dangerous dose.—(*From The Journal A. M. A., Jan. 14, 1911.*)

CAMPHENOL

Camphenol is made by Johnson & Johnson, New Brunswick, N. J. Under the name of the article on the carton appears the following formula: $C_{10}H_{16}O - C_6H_4(CH_3)OH = C_6H_5OH$. This formula consists of the chemical formulas for camphor, cresol and phenol, written one after another, and from this one would conclude that Camphenol is a compound of camphor, phenol and cresol in molecular proportions. Examination shows, however, that Camphenol is but a modification of the well-known camphorated phenol (the liquid produced when solid camphor and phenol are triturated together). In Camphenol a part of the phenol, in the camphorated phenol, has been replaced by cresol, and this liquid has been diluted and emulsified with gelatin or some similar substance and perfumed. In other words, this preparation is an emulsion containing relatively small quantities of cresol, phenol and camphor and is another illustration of the attempts of would-be pharmaceutical houses to produce new synthetics in the simplest manner possible—that of writing the chemical formulas of the constituents of a remedy in a way to indicate a chemical combination.—(*From The Journal A. M. A., Nov. 5, 1910.*)

CHOLOGEN

The proprietary Chologen is interesting some of our readers and several have sent us samples and literature. Dr. Philip Marvel, Atlantic City, N. J., for example, writes:

"By the way, I am to-day sending you by mail a package which the Council on Pharmacy and Chemistry may care to tackle, or it may not. I shall not be insulted any way, but since these chologen preparations are being used a good deal by various globe trotters, who sometimes hook up for a short stay here, I feel it might be of some interest to know 'what fools these mortals be' and how much the profession is being fooled with them."

Chologen as a medical treatment for gall-stones has been before the German public for a number of years, and it is somewhat singular that so simple a method, which could be easily prescribed by the physician if it had merit, should exhibit such remarkable vitality in proprietary form in spite of evidence going to show that it rests on erroneous principles. The Council rejected it as an unscientific mixture. The treatment is somewhat liberal, consisting of the use, in varying successions, of three kinds of tablets: No. 1, calomel and podophyllin; No. 2, calomel, and No. 3, calomel, podophyllin, camphor and menthol. The proprietors tell us that the treatment should be proceeded with in spite of disturbances, such as diarrhea and pain in the abdomen, and that it should be repeated regularly in intervals for some years, so long as any trouble exists or recurrence is threatened. "A course" of Chologen tablets should be taken two or three times a year, No. 1 being given for ten days, then Nos. 1 and 2 for forty days and No. 3 for ten days.

It is worthy of note that experimental work seems to have been performed in the attempt to show that bile produced by this remedy will cause the disintegration and solution of gall-stones. Normal bile has a certain solvent action on gall-stones, but calomel and podophyllin have no demonstrable effect in increasing the amount of bile. We had imagined that these facts were generally known.

It is somewhat discouraging to reflect that some physicians entertain so low an estimate of their ability to prescribe such well-known remedies as calomel and podophyllin that they must use them in the fixed combinations provided by Dr. Glaser. If the self-respecting physician does not consider himself insulted by a proprietary manufacturer who presumes to tell him how to use such well-known remedies, this is a good sign that he needs to take a postgraduate course in materia medica and elementary prescription-writing. We feel that medical writers must be short of subjects when they devote papers to the exploitation of proprietaries consisting of these simple ingredients.—(*From The Journal A. M. A., Feb. 1, 1913.*)

HAGEE'S CORDIAL OF COD-LIVER OIL ***Fraud and Deception Connected with So-Called Cod-Liver Oil Preparations**

The introduction of cod-liver oil as a supposedly easily assimilable nutrient and reconstructive was followed by its extensive use in wasting diseases, especially in phthisis, in the treatment of which it came to be considered almost essential, as it was supposed to possess some mysterious power different from that of other oils. Its unpalatable character led to various devices to render it tasteless and make it more acceptable to the stomach. Emulsions containing the oil in mixture with other substances were put on the market and served a useful purpose. But the oily nature, imperfectly concealed, was disagreeable to many, and gradually other preparations appeared which attempted to retain the supposed therapeutic virtues of cod-liver oil while dispensing with its disagreeable character. This attempt has been carried to the extreme that in many of the cod-liver oil preparations now on the market the oil has been entirely eliminated and all that is left of the oil is the name. This is a species of fraud which has been tolerated too long, but which will be kept up so long as physicians are willing to be duped. Some of these articles are said to "represent" the oil and to possess all its virtues. Others are said to contain oil, while still others are stated to contain "all the valuable constituents." What is the standard by which we may determine the true value of these preparations and by which we may determine whether or not we, and through us our patients, are being humbugged?

A FOOD OR MEDICINE—WHICH?

Is cod-liver oil to be considered a food or a medicine? A food, certainly. As a food its value will consist in the fats it contains. These fats are more easily oxidizable and are considered more digestible than other fats because of the presence of compounds derived from the liver which favor its emulsification and enable it to penetrate the mucous membrane more easily than other fats. Aside from their nutrient properties we have no evidence that the fats of cod-liver oil possess any therapeutic value; if the oil possesses therapeutic qualities they must reside in its non-fatty constituents, and the activity of these non-fatty constituents is not acknowledged by those who have investigated them scientifically. Most pharmacologists believe that whatever virtue there is in cod-liver oil depends on its qualities as an easily assimilable fat.

* See also report on Hagee's Cordial, p. 51.

On the whole, we must conclude with Cushny that "cod-liver oil has not been shown to have any action apart from that of an easily digested food, and its superiority to some other fats and oils has not been satisfactorily established."

If, then, the value of cod-liver oil depends on the presence of fat as its nutritive constituent, the amount of fat a preparation contains will determine the worth or worthlessness of such a preparation; at all events, a preparation claiming to represent cod-liver oil which does not contain fat in some form is fraudulent.

HOW TO PROVE OR DISPROVE THE PRESENCE OF COD-LIVER OIL

Fats may be changed to fatty acids or to soaps, as occurs under the influence of pancreatic juice in digestion, and still retain their nutritive value, but it is not possible to manipulate them in any way so that they are still valuable as food, and yet do not respond to easily applied chemical tests which demonstrate their fatty nature.

Any preparation of cod-liver oil in which fat or fatty acid is not recognizable by proper tests is valueless as food, since its food value depends on the amount of fat or fatty acid present. An elementary knowledge of chemistry and the application of a few simple tests will enable any physician to learn for himself whether or not a preparation contains fat or fatty acids.

The preparations claiming to "represent" cod-liver oil are in liquid form, and if they contain oil it must be one of the following forms:

1. An emulsion of the oil which may be miscible with water, but from which the fat tends to separate and rise to the top. In this form the fat can be seen as globules under the microscope.

2. A solution, resulting from the saponification of the oil, containing a soap which usually will be alkaline in reaction, especially when mixed with water, and from which fatty acids are separated as a precipitate when the solution is acidified.

3. A solution of fatty acids. This will be acid in reaction and will be precipitated by the addition of water, in which the fatty acids are not soluble.

Hagee's Cordial of Cod-Liver Oil

Hagee's Cordial of Cod-Liver Oil Compound is said to "represent 33 per cent. of pure Norwegian cod-liver oil," with other ingredients, in perfect solution. It is also claimed, according to the advertising pamphlet, that "in this preparation we have every beneficial constituent of the best and purest Norwegian cod-liver oil." Put to the above three tests, however, Hagee's cordial of cod-liver oil is not, 1,

an emulsion of cod-liver oil; 2, is not a saponification of cod-liver oil; and, 3, does not contain fatty acids. It therefore contains no cod-liver oil. The only nutrients in the mixture, revealed by analysis, are sugar, alcohol and glycerin, none of which is contained in cod-liver oil.

In this case the manufacturer misleads by the use of the word "represents"; he is careful not to say "contains," although the average reader would not be apt to notice the nice distinction. The manufacturer unwittingly admits that it contains no oil when he says that it "contains everything of value except the grease." What else there is of value in cod-liver oil besides the "grease" we do not know. Certainly, if we estimate the value of the remedy by its nutrient properties, it must be set down as practically worthless, if not fraudulent, for although a mixture of sugar, alcohol and glycerin does possess certain nutrient value, the materials can be purchased for it far more cheaply in the open market. It is evident that claims are made for this preparation which cannot be substantiated.

Again, some of the so-called cod-liver oil preparations are termed extracts of cod-liver oil, but are not in fact made from the oil, but from the cod-livers instead. They are preparations which, if honestly made, might be worthy of trial, but they are improperly called "extracts" of cod-liver oil, since they do not contain the fat, which is the active constituent of the oil, but the extractives from the liver which may or may not possess therapeutic virtues. So far as we know, however, no satisfactory evidence is forthcoming to indicate that such extractives have any therapeutic value.

The attempt to modify cod-liver oil for therapeutic purposes may be pronounced a failure and the large variety and extensive sale of these preparations appear to be owing to the fact that physicians do not recall the ordinary facts of chemistry and fail to apply simple tests with little technical skill, but too readily accept as facts the statements of the manufacturers.—(*Modified from The Journal A. M. A., Oct. 13, 1906.*)

WATERBURY'S COMPOUND ONCE MORE *

Most of our readers will remember what THE JOURNAL has published about a product that used to be sold as "Waterbury's Metabolized Cod-Liver Oil Compound." Briefly, it was shown by a report of the Council on Pharmacy and Chemistry and a contribution from the Association's laboratory, that this "Cod-Liver Oil Compound" contained practically no cod-liver oil! Later the federal government declared the stuff misbranded.

* See pp. 54, 57 and 442.

The product is now sold under the name "Waterbury's Compound." It was recently stated in this department that "Waterbury's Compound" was one of the proprietary preparations advertised both in "display" form and also in the form of an "original article," in the *Army and Navy Medical Record*—a fraudulent publication that offered its editorial pages for sale. Physicians are now receiving from the Waterbury Chemical Company a reprint of what purports to be an editorial from the *Army and Navy Medical Record* entitled, "One of America's Most Valuable Preparations." The preparation, of course, is "Waterbury's Compound." The company in sending out this reprint also reproduces on the reverse side the title-heading of the *Army and Navy Medical Record*. All of which goes to show that some concerns not only do not mind being found in bad company, but seem proud of it. By the way, we wonder whether those physicians who are still prescribing this nostrum think they are prescribing a preparation containing cod-liver oil!—(From *The Journal A. M. A.*, Nov. 15, 1913.)

COLLYRIUM-WYETH

"I should be glad of any information about Wyeth's Collyrium and would also like to know if the position taken by this concern measures up to the requirements of the Council on Pharmacy and Chemistry."

This inquiry was received from a Boston physician, who enclosed with his note the letter quoted below that he had received from John Wyeth & Brother, Philadelphia, the makers of the preparation in question:

"We have your letter of the 22d inst., in which you request us to send to you formula for 'Collyrium,' and in reply thereto, beg to advise, being a corporation you will, we think appreciate why we are not at liberty to disclose the various formulas under which our preparations are made. Such is the competition in the trade that secrecy in this respect is a valuable asset.

"You will not for a moment think that we take this position through any distrust of your discretion or good faith, but because we feel that our duty to the stockholders of the company prohibits us from disclosing our formulas.

"Let us assure you however, that the eyewash contains only the simplest and most harmless remedies well known to the medical profession."

John Wyeth & Brother seek the patronage of the medical profession and desire physicians to use their preparations, but "being a corporation" they "are not at liberty to disclose the various formulas" of these preparations. In other words, they expect physicians of the country to prescribe "patent medicines" of whose composition they must be ignorant and to rely wholly on the word of John Wyeth & Brother as to the innocuousness of these products.

The letter is an insult to the physician to whom it was written. If physicians were not so apathetic in cases of this kind, the corporation of John Wyeth & Brother would long since have been forced "off the fence"—it would have become either a "patent medicine" concern or would have confined its activities to the manufacture of pharmaceutical products and ethically exploited proprietaries. Now what about this Collyrium-Wyeth? It was analyzed in the Chemical Laboratory of the American Medical Association and the chemists report:

"The specimen of Collyrium-Wyeth examined was a clear, colorless liquid having a faint odor like benzaldehyd. Qualitative tests demonstrated the presence of antipyrin, free boric acid and sodium borate. Acetanilid, ammonium salts, glycerin, nitrates, phosphoric acid and pyramidon were absent. Such potent alkaloids as atropin, cocain, homatropin and pilocarpin, which are often used in ocular surgery, were not found. Preparations of goldenseal were not present. Quantitive examination indicated that the composition of the preparation examined is essentially as follows:

"Antipyrin	0.41 gm.
"Sodium borate (borax).....	0.55 gm.
"Boric acid	2.14 gm.
"Water (by difference) to make.....	100.00 c.c."

The secret of such a formula must indeed be a "valuable asset!" We venture the assertion that if the medical profession did its duty, the corporation of John Wyeth & Brother would find that its "duty to the stockholders of the company" constrained it to abandon secret "patent medicines" and to confine its activities to a legitimate line of pharmaceutical products. An examination of the firm's pricelist reveals but a very few secret-formula preparations of the type represented by Collyrium, hence it would probably not seriously damage the business of the firm either to eliminate all such formulas from its pricelist or to enable the physician to use them intelligently, if they deserve it.—(*From The Journal A. M. A., May 17, 1913.*)

DIATUSSIN

Dr. I. Fleiss, New York, writes:

"Please state the value of Diatussin, of Bischoff & Co., in pertussis. Since pertussis is such an intractable disease, anything which promises improvement is apt to attract the physician's attention."

According to an advertising circular, issued by E. Bischoff & Co., purporting to be a "reprint from the *Munich Medical Weekly*," Diatussin is ". . . a dialysate of *Herbæ Thymi* and *Pinguiculæ*." The latter is said to be known in the

Alps as "blue fatweed." The only further information as to the composition of this preparation is the statement that "the dialysate of this blue fatweed is said by the manufacturer to contain a proteolytic ferment." The writer of the article recounts how, after trying a host of remedies, he finally had such success in the treatment of whooping-cough that ". . . a whole procession of mothers with children affected by whooping-cough came to me from a neighboring village, only because several children from this place had been quickly cured by the dialysate." Nevertheless, while the "procession of mothers" appears to have been impressed by the virtues of Diatussin, the writer of the article, rather modestly for contributors of this sort, admits that "I am, of course, well aware, that the small number of cases under my observation allows of no decisive conclusion; it is only the object of these lines to interest a wider circle in tests."—(*From The Journal A. M. A., May 17, 1913.*)

ENTERONOL

The "Greatest Germicide Known to Science!"

This preparation is put on the market by the Enteronol Company, Oswego, N. Y., which declares that Enteronol is "the greatest antiseptic and germicide known to science," and that it "destroys the germs of typhoid fever, acute and chronic diarrhea, dysentery, cholera infantum, cholera morbus, summer complaint, Asiatic cholera, etc., within two hours." The formula furnished by the company reads as follows: "Ipecac, sub. nit. bismuth, latalia rad., camphor, lupulin, caffen and rheum." The attention of the Council on Pharmacy and Chemistry of the American Medical Association was directed to this preparation by a correspondent who had received a circular from the Enteronol Company. He sent a dollar to the company asking for a sample of "latalia rad." that he might study the drug botanically, as he was unfamiliar with it. He expected to receive by return mail a sample of root or bark, but instead, he received three boxes of Enteronol and the information that as "latalia rad." costs from \$25 to \$45 a pound the company could not afford to send samples. In a circular letter sent out by this company "latalia rad." is said to grow on the sides of the Himalaya Mountains in India, and that the company is unable to obtain enough for its own use. This statement is probably correct, and no one else could secure the drug either. A sample of Enteronol was submitted to Professor Day, of the University of Illinois, and to Professor Kraemer of the Philadelphia College of Pharmacy. Professor Day reports that he was "unable to find any mention of the drug of 'latalia rad.' which is stated as one of

the ingredients of this preparation. I have searched the usual works of reference on pharmacognosy without being able to find any reference to a drug of this name. A microscopic examination of the tablets shows the presence of rhubarb and of ginger, but no lupulin, at least not in substance; nor could I locate definitely any ipecac, also stated to be one of the ingredients. Since ginger is not stated to be one of the ingredients of the compound, it, perhaps, may be the mysterious stranger 'latalia rad.' I was unable to locate any of the ordinary astringent drugs, such as kino, krameria, or nutgall." The results of Professor Kraemer's examination were practically identical with those obtained by Professor Day. A report from the chemical laboratory of the American Medical Association states that as Professors Kraemer and Day suggested the presence of alum, tests were made for this substance. The analysis, details of which are given, leads to the conclusion that alum is the chief constituent of Enteronol. The report adds strongly to the impression that "latalia rad." is simply a ruse to catch the unwary and trusting physician who lacks the time to look into the botany of every new plant discovered, and who is willing to trust the honesty of every manufacturer. Attention is also directed to the fact that while bismuth and caffein are mentioned as ingredients tests made in the laboratory failed to discover either of these substances. Since there is no lupulin, no ipecac, no caffein, no bismuth, and possibly no "latalia rad." one is forced to the conclusion that the "formula" is meaningless and worthless, and that it is simply used to satisfy the demand for formulas for proprietary remedies. This is one more beautiful illustration of the absurdity of accepting a preparation because the "formula is on every package."—(*Abstracted from The Journal A. M. A., March 21, 1908.*)

An Invitation to The Journal to Humbug the Profession

THE JOURNAL has received a circular letter from the Enteronol Company, in which the following liberal offer is made:

"We are willing to take one-fourth or one-half page 'ad' in your Journal for a year at the regular rate, on condition that you accept payment therefor in our GUARANTEED 7 per cent., preferred stock at par; or if you desire, in ENTERONOL at the net wholesale price to physicians."

Not that this offer is made exclusively to THE JOURNAL:

"A large number of medical journals have accepted the foregoing proposition; many carrying this advertising for several years already."

"Our company is cooperative; we paying no cash for advertising. The company is owned principally by physicians, medical journals, and druggists."

The journals of which we have record that carry the enteronol advertisement are: *Kansas City Medical Record*, *Milwaukee Medical Journal*, *Toledo Medical and Surgical Reporter*, *Proctologist*, *Pediatrics*, and the *Atlanta Journal-Record of Medicine*. If the statements made by the Enteronol Co. are true, we might infer that these journals are being paid for advertising space either with "preferred stock" or with the nostrum itself. As we have previously shown, however, the veracity of the enteronol advertising matter is by no means unimpeachable.

Enteronol, it will be remembered, was exposed in THE JOURNAL, March 21, 1908. It is advertised as the "greatest antiseptic and germicide known to science," and possesses (?) such remarkable power that it "destroys the germs of typhoid fever, acute and chronic diarrhea, dysentery, cholera infantum, cholera morbus, summer complaint, Asiatic cholera, etc., within two hours." "The original product is found only high up on the sides of the loftiest mountains in the world—the Himalayas of India."

THE "LITERATURE" FORMULA

Of course it has a "formula":

Ipecac		Lupulin
Sub. nit. bismuth	Latalia rad.	Caffein
Camphor		Rheum

This seems very open and above board, except as to quantities, until one tries to find out what "latalia rad." is; then it is discovered that it is the "mysterious stranger" of pharmacognosy. Experts to whom this "remedy" was submitted were unable even to find mention of such a drug or plant as "latalia rad." Nor was this the only fake found concerning the stuff; carefully conducted experiments repeatedly carried out in the Association's laboratory failed to disclose even a trace of bismuth subnitrate or caffein. These experiments did show, however, that the tablets contained an amount of aluminum corresponding to over 25 per cent. of crystallized alum. This led to the conclusion that alum, whose presence is not even hinted at in the "formula," is the chief constituent of enteronol and as a corollary that the formula is meaningless and worthless.

THE LABEL FORMULA

There is a curious lack of coordination between the "formula" as printed on the label and that given in the "literature." The Food and Drugs Act, it will be remembered, makes lying on the label illegal, and therefore dangerous; statements in advertising matter that does not accompany the product, however, are not controlled by that law.

The "formula" in the "literature" we have already given; the "formula" on the label gives the following ingredients:

Ipecac		Lupulin
Sub. nit. bismuth	Opium, $\frac{1}{4}$ gr.	Caffein
Camphor		Rheum

Two things about this are worth noting: One is that the name of the ingredient on which the manufacturer lays so much stress—*latalia rad.*, the mysterious Himalayan plant—is absent from the label. This would seem to indicate that what has already been intimated by THE JOURNAL—namely, that *latalia rad.* is a figment of the imagination—is a fact. The second noticeable thing about the label "formula," as distinct from the "formula" in the advertising matter, is that on the label we find there is opium in the preparation. Why is no mention made of the presence of this potent drug in the advertising matter?

To determine how nearly the present statements made by the Enteronol Company approximate truthfulness, our chemists were asked to examine the nostrum as it is now sold. Their report follows:

LABORATORY FINDINGS

An original package of enteronol tablets was purchased on the open market and submitted to the Association laboratory for examination. In general appearance, odor and taste the new tablets are similar to those previously examined. The formula for the old tablets was given as "Ipecac, Sub. nit. bismuth, *Latalia rad.*, Camphor, Lupulin, Caffein, Rheum," and is still used in the circular. But the label on the trade package no longer mentions "*latalia rad.*" Since the presence of "*latalia rad.*" in the old tablets, was questioned, and as new labels have ceased to display the name, it was thought possible that caffein and bismuth might now be constituents of enteronol, as the drugs are still mentioned in the new formula on the label. Accordingly, enteronol was examined chemically to verify the statements on the label regarding the presence of caffein and bismuth in the tablets.

The specimen submitted to the laboratory some time ago was found to contain neither bismuth nor caffein. By employing the same methods as were used before (the usual tests for detecting caffein and bismuth), neither caffein nor bismuth could be demonstrated. It is thus evident that this new specimen of enteronol, the statement on the label to the contrary notwithstanding, contains neither bismuth nor caffein—at least, in appreciable quantities.

One would think that the discrepancy between "formulas" and facts would prove of interest to the stockholders of the Enteronol Company, especially as we are told that the policy of the company is to have "practical men as stockholders." We are informed:

"Therefore, we have physicians, advertising experts, printers, publishers, engravers, boxmakers, lithographers, druggists, lawyers, traveling salesmen, officers and men holding executive positions in various manufacturing and commercial corporations, editors of medical publications, bishops, clergymen and missionaries—men from all the fields particularly valuable commercially for our great enterprise."

Yet if the physician-stockholders do not care to concern themselves about the composition of the nostrum from the sale of which they derive dividends, it can hardly be expected that the boxmakers or traveling salesmen will be interested.

STOCK FOR SALE

Medical journals are not alone in being invited to participate in the exploitation of this nostrum, *vide* a circular letter from the Enteronol Company addressed "To Investors":

"We offer at par of \$10 each, 1,000 shares of our Guaranteed 7 per cent. Preferred Stock, cumulative dividends, payable quarterly . . . Profits on business done last year were 54 cents for every dollar expended . . . *We guarantee absolute security for your investment. Safer than a bank.*" [Italics ours.—Ed.]

We are told that at present the Enteronol Company manufactures two products: a castor-oil preparation, known as fig-ol, and enteronol. Very shortly, however, the company expects to "add seven equally efficient products."

"The average cost to manufacture, ready to ship, a dollar's worth of these goods is less than ten cents."

"In enteronol alone, the company has fortunes and the only thing needed to bring tremendous results and dividends of 100 per cent. is the proper amount of judicious advertising."

Here are some samples of the judicious (?) advertising:

"One Christian missionary, the Rev. Paul Singh of Jubbulpore, India, testifies that he cured thirteen severe cases of Asiatic Cholera with a box containing less than thirty tablets" [of enteronol].

"Wm. F. Oldham, bishop of Southern Asia, writes us that enteronol cured nine cases out of ten of Asiatic Cholera. Now just think of India and China with their 800,000,000 people who are dying by the thousands of a disease which we have the power to cure so easily."

How like a discourse by that delightful character of Mark Twain's—the visionary Colonel Sellers—this reads. As he said about his "Infallible, Imperial, Oriental Optic Liniment":

"Why in the Oriental countries . . . every square mile of ground upholds its thousands on thousands of struggling human creatures—and every separate and individual devil of them's got the ophthalmia."

The prospective stockholder is told that an ordinary business concern reaches the limit of financial possibilities in a few years, but:

"Not so with the Enteronol Company—it is a mail-order business and the world is its territory."

Even so with Colonel Sellers' "Optic Liniment":

" . . . it's a patent medicine whose field of operations is the solid earth."

And we are told elsewhere that "about four-fifths of the outstanding stock is held by the medical profession alone"!

And this stuff is advertised in medical journals!!

We are sometimes in danger of being too optimistic regarding the results of the propaganda for reform in proprietary medicine. Cases like this act as a corrective.

—(*From The Journal A. M. A., Nov. 20, 1909.*)

EXPURGO (SANOL) ANTI-DIABETES

One More Fraudulent Nostrum for Diabetes

Expurgo Anti-Diabetes is sold and advertised in the United States by the Expurgo Manufacturing Company, Chicago. The concern is the United States branch of a Canadian company, the Sanol Manufacturing Company, Ltd., Winnipeg, which sells its product in Canada under the name of "Sanol Anti-Diabetes." The parent company is said to have been incorporated under the Manitoba laws in 1912 and to have for its officers and directors the following men:

Charles Beyer, President.

Frank Beyer, Vice-President.

Charles Bauer, Secretary-Treasurer and Manager.

The manager of the United States branch in Chicago is said to be one E. M. von Amerongen.

The stuff is such an evident fraud that one would imagine that even intelligent laymen could not be deceived by it. Nevertheless medical journals both in the United States and Canada have accepted advertisements for this preparation and physicians—of a certain type—have been found to give testimonials for it. The medical profession is circularized widely by the concern and "write-ups" have appeared in pseudomedical journals. Some of the claims made for Expurgo Anti-Diabetes are:

"The only positive cure for Diabetes."

"It never fails to effect a Cure in every case of this disease, in whatever form it may present itself provided the patient has not reached the last stages of the malady."

"Expurgo Anti-Diabetes is the New Cure for this deadly affliction."

"Diabetes is certainly curable by our new discovery—Expurgo Anti-Diabetes, provided that the course of the disease has not progressed to the extent that the vital organs are irreparably damaged."

"... thanks to the discovery of Expurgo Anti-Diabetes, the cure of this dread disease is no longer a matter of doubt."

this dread disease is no longer a matter of doubt."

"With the exception of very advanced cases of Diabetes . . . all diabetes can be cured by Expurgo Anti-Diabetes."

Such claims one would imagine would be more than sufficient to make plain, even to the most uncritical of physicians, the evident fraudulence of Expurgo Anti-Dia-

betes. Nevertheless, the advertisements of this fraud have appeared during 1913 in the following medical journals:

Medical Times
Medical Brief
Medical Summary
Buffalo Medical Journal
Louisville Monthly Journal
Iowa Medical Journal
Canada Lancet
Detroit Medical Journal
Medical Herald
Medical Review of Reviews
Medical Standard
Medical Review

Therapeutic Record
Medical Fortnightly
Indianapolis Medical Journal
Southwest Journal of Medicine
and Surgery
Western Canada Medical Journal
Dominion Medical Monthly
Canadian Medical Association
Journal
Canadian Practitioner and Review
Massachusetts Medical Journal

Physicians will recognize that, with but few exceptions, most of these journals are utterly unrepresentative of scientific medicine.

The *Army and Navy Medical Record*, shown in THE JOURNAL recently as a journalistic fraud, contained an editorial puff of Expurgo Anti-Diabetes. The fact that the Expurgo Company reprints the "editorial" from the *Army and Navy Medical Record* as a "voluntary and unsolicited reference" and distributes it among physicians, indicates how rotten are the props on which the superstructure of this fraud rest.

Another alleged "voluntary and unsolicited reference" used by the Expurgo Company is taken from the *Therapeutic Record* of Louisville, Kentucky. The advertising pages of the *Therapeutic Record* reek with frauds and it has more than once given editorial endorsement to some of the frauds that it advertises. The following enlightening letter is alleged to have been written by the editor of the *Therapeutic Record* to the Expurgo Company in February, 1913:

Gentlemen:—Your favor of February 14th came duly to hand. Let me advise you to pay no earthly attention to the proceedings of the Medical Society where your product was criticized. These people exert no influence with the practical up-to-date element of the profession and are doing you as they do others. *Never fear—you will succeed—your remedy is all right. No man can talk down a meritorious product. I stand ready to help you in any way at any time.*

With sincere regards, I am,

ROBERT C. KENNER, M.D.,
 Editor, the *Therapeutic Record*.

This, it will be noticed, was written in February. Soon thereafter the *Therapeutic Record* was carrying the Expurgo advertisement, and the June, 1913, issue contained a puff on Expurgo, entitled "A Contribution to the Medical Treatment of Diabetes." The *quid pro quo* is fairly evident.

THE ALLEGED FORMULA

The formula for this nostrum is never published, although in some of the advertising matter it is claimed that it is "at the disposal of physicians." A physician wrote to the Expurgo Manufacturing Company, asking for the formula. He was told that the preparation was "exclusively derived

from the vegetable kingdom," from which one may recognize a family likeness to the "dope" put out by the immortal Lydia Pinkham. Further, to copy the letter exactly:

"The ingredients of which Antidiabetes is composed are chiefly:

"fructus syzigii jambulani

"cortex syzigii jambulani

"flores Rosmarini

"fructus Anisi stellati

"Extr. fl. Colæ

"Extr. fl. Condurango

"Extr. fl. Chinæ spir. spiss.

"Extr. fl. Calami

"Extr. fl. Gentianæ."

The recipient of this noncommittal and uninforming "formula" again wrote the Expurgo Manufacturing Company, asking for quantities. Evidently this nostrum concern considered such a request a piece of impertinent inquisitiveness, for it replied to the physician in these terms, given *verbatim et literatim*:

"Dear Sir:—Yours of the 16th duly to hand. We note that you state ' . . . I do not like to be working in the dark, and you can readily see that this is the case unless I know how much of each ingredient I am giving. . . . '

"In your letter of the 6th you asked for the composition, which you promptly received. We would like to state that we are dealing with about 600 Doctors. Some of them asked for the formula, which they received. They are all very conscientious gentlemen and none of them ever pretended 'to work in the dark.' You know furthermore that none of these ingredients is harmful in any way and yet 'work in the dark.' You know that if there were any harmful ingredients in our preparations, we would expose ourselves to imprisonment. If you are so anxious to know all about it, why do you not analyse our medicine? This would enlighten you in your 'perfect darkness.' If you want to deprive your patients and yourselves of the indisputable good of our preparations, simply do not prescribe them. Why finally do you not write to the Doctors whose names we gave, who know enough to be able to enlighten those who need it.

Truly yours

THE EXPURGO MFG. CO.,
C. M. v. Amerongen, Manager.

More than a year ago, a Wisconsin physician, himself a sufferer from diabetes, wrote THE JOURNAL that for three months he had been using Expurgo Anti-Diabetes which the Expurgo people had sent him. He declared that the nostrum had greatly reduced the percentage of sugar in his urine. In its reply, THE JOURNAL asked him whether, in testing his urine he had used portions of twenty-four hour specimens or merely individual specimens. His attention was called to the fact that most of the nostrums for diabetes are diuretics which, by increasing the amount of urine passed, give an apparent decrease in the amount of sugar excreted. A few days later, the physician wrote again, stating that he had committed the very error THE JOURNAL had suspected, and reporting that an examination of a twenty-four-hour specimen showed that the glucose-excretion, instead of being diminished, actually increased. This matter was referred to

editorially in THE JOURNAL, Nov. 9, 1912, under the title, "A Possible Fallacy in Testing Diabetic Urine."

Specimens of Expurgo Anti-Diabetes were examined in the Association's laboratory and the chemist's report follows:

LABORATORY REPORT

"The specimen of Expurgo Anti-Diabetes (Sanol Anti-Diabetes) examined, was a light-brown, opaque liquid, having a faintly aromatic odor and bitter taste. The specimen contained considerable amounts of brown, insol-

Main Office, Winnipeg, Canada

THE EXPURGO MANUFACTURING CO.

NOT INCORPORATED

FORMERLY THE SANOL MANUFACTURING CO.

PHARMACEUTICAL PREPARATIONS

838 WELLS STREET

Telephones, Dearborn 6178 Automatic 38-789

EXPURGO LAPIS

Is very valuable in the treatment of Gall Stones, Kidney Stones, Gravel in the Bladder, Lumbago, Uric Acid Diathesis.

EXPURGO ANTIDIABETES

The only positive cure for Diabetes.

EXPURGO BLOOD MIXTURE

The most reliable remedy for all Skin Diseases.

Chicago, _____ 191__

The letter head of the Expurgo Manufacturing Co. Note the claim that Expurgo Anti-Diabetes is "the only positive cure for diabetes." And this stuff is foisted on the profession through the medical press!

uble residue resembling the deposits often found in fluid extracts. The absence of ammonium salts, iodids, glycerin, hexamethylenamin, of antipyrin, pyramidon and similar substances and of such purgatives as aloes, frangula, rhubarb, etc., was indicated. Potent alkaloids such as aconitin, cocain, morphin and strychnin were not found. Qualitative tests indicated the presence of traces of phosphates, sulphates, reducing sugars, caffen and cinchona alkaloids. Alcohol was present only in traces. Small quantities of chlorids, sodium and a salicylate were found. The residue on drying amounted to 2.9 gm. in each 100 c.c. A determination of the salicylic acid indicated approximately 0.17 gm. in each 100 c.c., which is equivalent to less than 0.2 gm. of sodium salicylate per 100 c.c. (about 1 grain to the ounce). Evidently the preparation contains plant extractives in aqueous solution and small amounts of sodium salicylate and sodium chlorid."

Summed up, the chemist's report shows that Expurgo Anti-Diabetes is essentially a watery solution of plant extractives with small quantities of sodium salicylate and salt. The exploiters claim their stuff contains the fruit and bark of jambul, rosemary, star anise and fluid extract of calamus, cinchona, cola, condurango, and gentian. Since fluidextracts in general are strongly alcoholic and since the laboratory's analysis shows that the preparation contains only traces of alcohol, the fluidextracts of the various drugs, if present at all, must be in an infinitesimal amount.

Jambul was in vogue as a remedy for diabetes about twenty years ago. It was tried and found wanting, and has long since been relegated to the therapeutic scrap heap. Sanol, therefore, is but one more proprietary humbug, foisted on the profession under fraudulent claims, and having for its essential constituent a drug that has long been discarded by scientific men and resurrected for the purposes of quackery. Expurgo will probably be used by uncritical and unthinking physicians and its existence will be artificially prolonged through the venality of pseudo-medical journals. That the medical profession should tolerate such an evident fraud is not to its credit. There is no excuse, either moral or otherwise, for a physician giving his patients nostrums of whose composition he is ignorant, and that is what is done whenever Expurgo Anti-Diabetes is prescribed.—(*From The Journal A. M. A., Jan. 24, 1914.*)

FORMAMINT

The Profession to Be Worked Again

Formamint Tablets are widely advertised and extravagantly exploited to the laity in Great Britain. Large and expensive advertisements appear in the English magazines and newspapers and the tablets are pushed under the most preposterous claims. The preparation is put out, we understand, by the same concern that exploits Sanatogen. The medical profession of this country is now being circularized and advertisements are appearing in medical journals. They already appear in the *Medical Record*, *New York Medical Journal* and *American Journal of Clinical Medicine*.

It seems then that this is another product which, for the time being at least, is to be a "patent medicine" on the other side of the Atlantic and an "ethical proprietary" on this. Doubtless the distinction will be a temporary one and as soon as American physicians have furnished the requisite number of testimonials and have recommended it to a sufficient number of their patients the advertisements will be quietly dropped from the American medical journals and the advertising pages of newspapers and magazines will be called into service.—(*From The Journal A. M. A., Jan. 27, 1912.*)

The So-Called Germ-Killing Throat Tablet

Formamint tablets have recently been put on the American market by the same concern that exploits Sanatogen, the "food tonic" or "tonic food"—according to whether one reads European or American newspapers. Formamint tablets are being introduced to the American public by that cheapest of all methods of advertising "patent medicines," through the medical profession. It is not advertised in American news-

papers or lay magazines—at present. For some years this product has been advertised in newspapers and other periodicals in Europe under such claims as the following:

“Formamint shields humanity against infectious disease.”

“Cures and prevents sore throat.”

“The dangers of infection from diseases like diphtheria, scarlet fever, measles, tonsillitis, sore throat, mumps, etc., have now been reduced to an absolute minimum. This is due to the discovery of Wulfin’s Formamint—the ‘germ-killing throat tablet.’”

“Cleanses the mouth and throat from disease germs as easily and rapidly as dirt is removed from the skin.”

“Formamint will certainly prevent diphtheria.”

“Quickly render the whole mouth and throat thoroughly antiseptic.”

“Formamint destroys these [diphtheria] germs so rapidly that when a physician mixed a little Formamint with water and added it to the germs taken from the throat of a patient dangerously ill with diphtheria they were all killed within ten minutes.”

Such are some of the claims by which Formamint goes to the European public. Doubtless it will be only a matter of time when the required number of testimonials from American physicians are forthcoming when we may expect to find the newspapers of this country heralding through their advertising pages the fact that Formamint is “recommended by thousands of American physicians.” The medical journals that are lending their pages to this preliminary advertising campaign are the following:

New York Medical Journal
Medical Record
American Medicine

*American Journal of Clinical
Medicine*
Medical Review of Reviews

How much longer will the medical profession permit itself to be used as an unwitting agency for the exploitation of “patent medicines”? The game has been worked so often that it has become transparently thin. It is evidently not worn out, however, or shrewd nostrum promoters would not waste their time or money on it. That it should still be considered workable is complimentary neither to the standard of advertising ethics of medical journals that accept the Formamint advertisements nor to the intelligence of the members of the medical profession who will “fall for it.” —(*The Journal A. M. A.*, Feb. 24, 1912.)

GOMENOL

A correspondent sends some advertising matter on Gomenol and calls attention to the number of diseases for which the preparation is recommended:

Gomenol is apparently a volatile oil. It is a proprietary said to come from France, and to be prepared from a species of cajuput (*Melaleuca viridiflora*, Gaertn.). This plant is closely related to the cajuput tree or swamp tea-tree (*Melaleuca leucodendron*, Linné) from which the official oil of cajuput is obtained. The oils from these two plants are very similar in composition and presumably in therapeutic properties. The oil of the first-named plant appears not to

be marketed except in the form of the proprietary, Gomenol. It probably has no advantage over the official oil of cajuput, while in the form of Gomenol it costs about four times as much. The following are some of the claims made for Gomenol in the advertising circulars. They need no comment.

"A real specific for suppurations and catarrh. . . . It immunizes tissues, excites their vitality and favors the formation of new cells. . . ."

"The least trace of Gomenol prevents the growth *in vitro* of the streptococcus, the tuberculous bacillus and the gonococcus."—(From *The Journal A. M. A.*, April 4, 1914.)

HEADACHE CURES *

Harmful Effects of Acetanilid, Antipyrin and Acetphenetidin

The United States Department of Agriculture Bulletin¹ No. 126, issued July 3, 1909, sets forth the results of an investigation conducted by the Bureau of Chemistry with regard to the harmful effects of acetanilid, antipyrin and acetphenetidin. During recent years the use of these remedies and preparations containing them by the people at large, without the supervision of the physician, has increased rapidly and investigation has shown that coincidently there has been a marked increase in the number of cases of poisoning reported, in the number of fatalities, and in the number of instances of habitual use.

Since the passage of the Food and Drugs Act, June 30, 1906, the attention of the Department of Agriculture has been directed to this subject, particularly in connection with the branding of drug products containing one or more of these agents, and an attempt has been made to obtain full and reliable data with regard to their poisonous qualities with the object of furnishing information to the public which would enable them to understand that these remedies should be employed with caution in the absence of reliable medical advice.

The information obtained with regard to the number of an inquiry addressed to medical practitioners in the United States with regard to their personal experience with these drugs; and, second, the study of the cases of poisoning recorded in medical literature. Nearly a thousand letters, each containing eighteen questions, were addressed by the department to physicians throughout the country, the object being to secure information which would represent as closely as possible the conditions existing among the people at large so far as the harmful effects of the drugs in question are concerned. Four hundred replies were received.

* See also report on Acetanilid Mixtures, p. 9.

1. The Harmful Effects of Acetanilid, Antipyrin and Phenacetin, by L. F. Kebler, Ph.G., M.D., chief Division of Drugs, Bureau of Chemistry, with the collaboration of Drs. F. P. Morgan and Philip Rupp, assistant chemists.

The information obtained with regard to the number of instances quoted in medical literature in which poisoning, death, or habitual use has been known to result from the administration of acetanilid, antipyrin, and acetphenetidin is set forth in Section A of the accompanying table. The information summarized in Section B is based on the data submitted by physicians. Granting that the 525 physicians who did not reply had no cases to report, the question may profitably be asked, if 925 physicians have observed 814 cases of poisoning by these drugs, 28 deaths which are attributed to their use, and 136 instances of habitual use, how many such cases have in all probability been observed by the 125,000 physicians scattered throughout the United States? The summary, C, includes both the number of cases recorded in medical literature and those reported by physicians.

POISONING BY ACETANILID, ANTIPYRIN AND PHENACETIN

A.—CASES RECORDED IN MEDICAL LITERATURE

	POISONING.	DEATH.	HABITUAL USE.
Acetanilid	297	13	32
Antipyrin	488	10	..
Acetphenetidin	70	3	1
Total	855	26	33

B.—DATA SUBMITTED BY PHYSICIANS

	POISONING.	DEATH.	HABITUAL USE.
Acetanilid	614	16	112
Antipyrin	105	5	7
Acetphenetidin	95	7	17
Total	814	28	136

C.—TOTAL NUMBER OF CASES

	POISONING.	DEATH.	HABITUAL USE.
Acetanilid	911	29	144
Antipyrin	593	15	7
Acetphenetidin	165	10	18
Total	1,669	54	169

The bulletin contains information with regard to dosage, the extent to which these drugs are employed by physicians, poisoning and habitual use, the nature of the ill effects produced, etc. It also contains references to the recorded cases of poisoning, together with a brief abstract of each case.—(*From The Journal A. M. A., July 31, 1909.*)

Sanatoriums and the Acetanilid Habit

To the Editor:—I enclose herewith a "form" letter and question blank which I received recently from St. Louis. I may be entirely too wary but I am suspicious that this is a collection of "statistics" to combat the work of the medical

profession in educating the physician and the laity in the harmfulness of acetanilid and similar preparations.

G. H. BENTON, M.D., Chester, W. Va.

Sterling-Worth Sanitarium.

COMMENT: The letter which Dr. Benton encloses is in facsimile form and purports to come from Uriel S. Boone, M.D., of St. Louis, who states that he is "preparing an exhaustive article for publication in a leading medical journal" on the question, "Is acetanilid a habit-forming drug?" To obtain the necessary data Dr. Boone is writing to every hospital and sanitarium in the United States." Examination of the question blank which accompanies the form letter discloses the fact that information is wanted regarding not acetanilid alone, but also antipyrin and acetphenetidin (phenacetin). The last question asked runs as follows:

"If your records [of cases of habitual use of these drugs] are incomplete, would you allow a reputable physician to investigate the above-mentioned cases so that he could write with positiveness about them, and, if necessary, *make oath to the truth of his report?*" [Italics ours.—Ed.]

Dr. Boone opines that the recipients of his queries "may hesitate to answer" the question just quoted, but he trusts that its importance will be evident when he explains that "it is currently reported that the manufacturers of acetanilid, phenacetin, etc., *have decided to prosecute all libelers of these drugs*" [Italics again ours.—Ed.] and he wishes to make no statement that he "can not substantiate under oath." Surely the life the collector of medical statistics is unusually hazardous.

For the purpose of aiding Dr. Boone in his arduous search for truth on the "much mooted question, 'Is acetanilid a habit-forming drug?'" we direct his attention to a work that should prove of invaluable assistance. We refer to Bulletin 126 of the Bureau of Chemistry, entitled "The Harmful Effects of Acetanilid, Antipyrin and Phenacetin." This interesting study to which we have previously called attention records 112 cases of the acetanilid habit. Of this number at least 50, or 44.6 per cent. of the cases were those of patients who took proprietary preparations of the drug.

From this we would not wish to give any bias to Dr. Boone's statistics. We hardly expect, however, that such will be the case. Dr. Boone's name appears as the author of an article entitled "A Therapeutic Study of Antikamnia and Heroin Tablets"—an article that has been very extensively "quoted" and has been sent out in its entirety by the Antikamnia Chemical Company. Under these circumstances we may be forgiven if we venture the opinion that Dr. Boone is not likely to be unduly prejudiced against "headache tablets" in general and fake "synthetic" coal-tar mixtures in

particular. We await with breathless interest the appearance of Dr. Boone's "exhaustive article" and we must confess to some degree of curiosity regarding the name of the "leading medical journal" in which these valuable data will appear.—(*Modified from The Journal A. M. A., Aug. 14, 1909.*)

HECTINE

Hectine is a French proprietary and is stated to be, chemically, sodium benzosulphoamino-phenyl-arsenate. If the asserted composition is correct, Hectine is similar to atoxyl, which is described in *New and Nonofficial Remedies*, 1914, page 38. Hectine has not been examined by the Council on Pharmacy and Chemistry.—(*From The Journal A. M. A., Aug. 8, 1914.*)

HYDRONAPHTHOL

A correspondent having requested information regarding the composition of "Hydronaphthol," the product was investigated in the Association laboratory, which reports as follows:

Hydronaphthol is sold by Seabury & Johnson. The label on a trade package of Hydronaphthol gives no clew as to the nature of the product. The statements on the labels do, however, make the claim that Hydronaphthol is an antiseptic of great power, also that it is non-toxic and therefore may be used with impunity; thus the following statements are made:

"A harmless, practically odorless, non-poisonous, non-corrosive antiseptic. . . ."

" . . . it is non-poisonous and can be employed with perfect immunity as a preservative"

The substance has the characteristic appearance, odor and taste of naphthol. It responded to all the tests of the United States Pharmacopeia for betanaphthol, with the exception of the melting point, which was found to be 119 C. instead of 122 C., an indication of impurity. It is evident, therefore, that Hydronaphthol is merely a trade-name for betanaphthol. While resublimed betanaphthol is listed at 10 cents an ounce, Hydronaphthol is listed at 75 cents an ounce.

Hydronaphthol thus furnishes one more illustration of the fact that most proprietary medicines for which the most extravagant claims are made are but old and well-known remedies sold under a fancy name at a price far in advance of that charged for the constituent or constituents. The exploiters are extremely positive in their statements regarding the non-toxic character of the preparation. Yet, as a matter of fact, betanaphthol is by no means harmless; it has been absorbed by the diseased skin with injury to the kidney and with fatal results. In some cases injury to the

eye has also occurred. These toxic actions should be known to the practitioner. From 3 to 4 gm. (1 dram) applied to the skin has produced death (Stern: *Therap. Monatshefte*, 1900, p. 165). When a manufacturer advertises a preparation which possesses potentialities for harm, and especially when he puts it out under a name which conceals its identity, it is incumbent on him to warn the customer of possible injurious or inconvenient actions instead of proclaiming that the preparation is harmless.—(From *The Journal A. M. A.*, Sept. 3, 1910.)

HYDROZONE

The moral principle governing the action of secret proprietary and patent medicine men is an unknown quantity; sometimes it would seem to be a negative one. Just how much lower in the scale of humanity a man can go than to prey on the fears of a people in the time of a terrible epidemic for

Hydrozone
Is a
**Positive Preventive of
Yellow Fever**

A scientific, absolutely harmless germicide, universally indorsed and successfully used by the best physicians. You can absolutely safeguard yourself against the fever by taking a teaspoonful of Hydrozone in each tumbler of water you drink. Sold by best druggists. None genuine without my signature.

Charles Harchand

63 E Prince Street, N. Y.

FREE—Send for "How to prevent and cure disease" and special instructions how to avoid and cure **YELLOW FEVER**

the sake of a few dollars we do not know. There may be something more despicable, but what is it? Two weeks ago we referred to the cold-blooded methods of the Peruna people; this week we reproduce an advertisement from the *New Orleans States* that tells another story of man's inhumanity to man.

This brings up the problem that we are trying to solve, viz.: "What is the difference between a 'secret proprietary medicine' advertised in medical journals to physicians and a 'patent medicine' advertised in newspapers to the public?" Hydrozone is being advertised in nearly all medical journals, and at the same time in newspapers. Where shall we place it? And if hydrozone, with the methods recently adopted to exploit it, is tolerated in the medical press, why not peruna?

HYPOQUINIDOL

An examination of the advertising matter fails to show that R. W. Gardner makes any definite statement in regard to the nature or the composition of his Hypo-Quinidol. Certain statements made in the literature sound much as if the article might be some sort of a quinin hypophosphite preparation. But if this is true, its action would be the same as other salts of quinin and the extravagant claims made could not be substantiated. It is said to be a "non-toxic quinin." It is safe to say that a quinin which will not produce the toxic symptoms—cinchonism—either is not absorbed in sufficient quantity or has been so changed that it no longer has the therapeutic properties of quinin. Altogether Hypo-Quinidol must be put down as a preparation the composition of which is kept secret and regarding which extravagant and highly improbable statements are made.—(*From The Journal A. M. A., Jan. 10, 1914.*)

IODONUCLEOID

An Iodin Product Under a Misleading Name

Information has been frequently asked concerning Iodonucleoid, a product not included in New and Nonofficial Remedies. The Association Laboratory after investigating this preparation reported as follows:

This preparation was at one time considered for inclusion with New and Nonofficial Remedies, and at that time was examined in this laboratory. The examination showed that iodonucleoid contains:

Phosphorus	0.79 per cent.
Calcium	0.43 per cent.
(Equal to 0.6 per cent. CaO).	
Iodin	24.2 per cent.

When 2 gm. was dissolved in tenth-normal potassium hydroxid volumetric solution and acetic acid added until faintly acid, an abundant, white, flocculent precipitate formed. This precipitate was collected, washed with water, transferred to a beaker, phenolphthalein added and tenth-normal potassium hydroxid volumetric solution run in until a pink color was produced. This required 15 c.c.

of tenth-normal alkali. Subtracting from the 2 gm. of iodonucleoid the 24 per cent. iodine, leaves 1.52 gm.; this divided by the c.c. of alkali used indicates an equivalent weight of 1013.

Authorities differ widely regarding the amount of phosphorus contained in nuclein from different sources, the figures ranging from 2.9 per cent. to as high as 10 per cent. If the nuclein from which iodonucleoid purports to be made contained but 2.9 per cent. phosphorus, the preparation, after allowing for 24 per cent. iodine, should still contain 2.2 per cent. phosphorus instead of the 0.79 per cent. found by analysis. A true nuclein should contain no calcium. If iodonucleoid is a casein compound of iodine we might expect to find, if the casein had been freed from milk by acidulation without further purification, both calcium and phosphorus. The equivalent weight of casein is given by Long (*Jour. Am. Chem. Soc.*, 1906, xxviii, 372) as 1124. This figure was obtained on a casein of high purity, and the figure of 1013 given above agrees fairly well with Long's figure for casein. The evidence, therefore, indicates that iodonucleoid is a compound of iodine and casein, and not a nuclein compound.

The findings of the laboratory were at that time submitted to Prof. John H. Long of Northwestern University, who said:

"We have also made a number of examinations of iodonucleoid. We determined in it the iodine and found the amount 24.2 per cent. by weight, which is a little more than that claimed by the manufacturer. We have also tested the solubility of this substance and find it to behave about as your laboratory did. As you know, we have been making a number of preparations from casein, and recently we have determined the combining power of casein with various acids, including hydriodic acid. This acid when evaporated in moderately strong solution with casein yields finally a hard, dry mass, which may be ground up to a powder resembling very closely the preparation under discussion. Various amounts of iodine may be combined here, depending on the strength of the iodine solution used, and we have secured some containing over 35 per cent. of iodine. Several of these preparations resemble closely iodonucleoid, so far as solubility, appearance and reaction with alkalis on titration are concerned. I am unable, therefore, to distinguish this preparation from the casein compounds which we are making."

From this it would appear that iodonucleoid is not a compound of nuclein, as indicated by the name, but instead is a casein compound of iodine.

Iodonucleoid, then, seems to be another one of the many iodine "substitutes" which have been put on the market. Other iodine substitutes are Iodalbin, manufactured by Parke, Davis & Co.; Iodipin manufactured by E. Merck & Co., and Sajodin, manufactured by the Farbenfabriken of Elberfeld Co. As these products have been examined by the Council and found eligible for inclusion with New and Nonofficial

Remedies, physicians who wish to use substitutes for potassium iodid would do well to use them instead of a product presented under a misleading name. Physicians should understand, however, that these organic iodine compounds are non-irritating because the iodine is held in such combination that it is much less active. It seems probable that they are therapeutically active only to the extent that the iodine content is dissociated from the organic compound and converted into ionic iodine.

A discussion of a number of iodine substitutes is found in an article by von Notthafft (*Monatsh. f. prakt. Dermat.*, Oct. 15, 1910, p. 343), which was abstracted and commented on in *THE JOURNAL*, March 4, 1911, p. 685. Von Notthafft believes that the lower degree of toxicity which these remedies exhibit has its basis in a feebler activity; either the substitutes evolve too little iodine or they split it off with greater difficulty. Physicians should, therefore, view with some distrust the claims of manufacturers that their products are not only non-irritating but at the same time possess unusual therapeutic efficiency. This will apply with especial force if there is any tendency to conceal the nature or origin of the combination.—(*The Journal A. M. A.*, July, 22, 1911.)

IRIDIUM

Dr. C. A. Dexter, Columbus, Ga., asks for information concerning the use of iridium in the treatment of acute and chronic rheumatism. Iridium is a well-known element although we have not found that it has been used as a medicine; however, we presume our correspondent refers to "Iridium (Medicinal)," sold by the Platinum Company of America. We are not able to locate this company, but in their advertising circular "Iridium (Medicinal)" is said to be "an agent for the blood, a laxative, an alterative, indicated in all disorders of the stomach, in Jacksonian epilepsy," and "a specific in rheumatism." As to its origin, it is said in the circular, "the platinum sands are associated with and composed of iridium" and some other elements, so that as far as the circular gives information the nostrum is alleged to contain the element iridium.

A few statements quoted from the circular will show that the person who wrote it knows nothing about medicine and cannot correctly use the English language: "The qualifications of Medicinal Iridium are its simplicity, purity, harmless under prolonged use, easily borne by the stomach." "It has been observed that when Medicinal Iridium acts as a laxative, it will regulate the same." "Called the family group, Iridium and Osmium are destined to become the world's benefactors in medicinal properties, thereby creat-

ing a new chapter in medical science." The circular quotes some supposed "excerpts from hundreds of letters on file, written by physicians, in the hope that they may attract your attention," which bear marks of having been written by the same person who wrote the circular. Note the quality of the following statements: "Iridium has a power, purity and simplicity that pleases me; now I can make progress." "I say to you frankly, Iridium is my standard. I can get results and make progress. I am confident it aids the fibrin in the blood." "Dr. X is pushing Iridium on five or six cases." It is not explained who Dr. X is, but it has this to say about him: "Dr. X is an eminent practitioner. He has made a remarkable record with Iridium and has so far never failed on cases of Jacksonian epilepsy; experimental tests have shown that Iridium increases blood-corpuscles."

The man who signs himself president of the Platinum Company of America is said to be a lawyer, but is not working at it, and was formerly a promoter, fiscal agent, etc. It should not be difficult for the physician to fix the status of iridium under this sort of exploitation.—(*From The Journal A. M. A., April 23, 1910.*)

IRON TROPON

The composition of Iron Tropon seems to have varied from time to time. The manufacturers formerly stated that it contained fat, sugar, pepsin and iron in organic combination with albumin, and its use was advocated both as a food and as a medicine. It was not claimed to contain over 1 per cent. of pepsin, but tests failed to show that it contained any pepsin, or if any, such a small amount that there was not sufficient to digest the albumin in Iron Tropon itself. It was also claimed that the iron, being in organic combination with the albumin, possessed advantages over the widely used aromatic fluid preparations of iron. Tests, however, showed that the iron was not in organic combination, though even had it been, late investigations fail to demonstrate the superiority of the organic over inorganic iron compounds.

The manufacturers state in their later "literature" that Iron Tropon is a tonic and a food; that it is a compound of the food albumin tropon, 2.5 per cent. of iron in its most assimilable form, and enough chocolate to flavor it agreeably. It will be noted that they now make no claim for pepsin, nor do they state that it contains iron in organic form. In the dose recommended, a teaspoonful three times a day for an adult, the patient gets something over a grain

of iron, and he might as well take an equivalent quantity of Blaud's mass, the value of which has been proved.

As a food, Iron Tropon, weight for weight, is about equal to beans and a little better than flour, although it contains a larger percentage of protein than either. In the dose stated, an invalid would get about 50 calories, or about 1/40 the necessary nourishment for a day. Tests have also shown that the albumin is difficult of digestion. In spite of this fact, the advertisement of Iron Tropon states: "A patient who takes Iron Tropon receives not only the benefit of iron medication, but at the same time his economy is supplied with perfectly assimilable albumin in sufficient quantity." It will thus be seen that the claim for pepsin in this preparation has been abandoned, that the statement as to the iron being in organic form has been modified, and that the food value of the albumin is exaggerated; but perhaps the manufacturers do not expect the physician to apply his arithmetic to such problems.—(*From The Journal A. M. A., April 23, 1910.*)

KUTNOW'S POWDER

Which Is It, a "Proprietary" or a "Patent Medicine"?

The term "patent medicine" has been applied, rather loosely, to those nostrums sold and exploited directly to the public, while the name "proprietary" has been given such preparations as are advertised only to the medical profession. As has been many times exemplified by reports in THE JOURNAL, the distinction is often a very fine one and the dividing line frequently reaches the vanishing point.

It is not unusual, for instance, for "proprietary" preparations to be foisted on the medical profession until a certain number of testimonials (of doubtful value, it is true, but still testimonials) have been ingeniously wheedled out of physicians and the product rather generously prescribed. When this objective point has been reached the manufacturer comes into the open and advertises the nostrum to the public direct and the testimonials previously given for the "proprietary" are used as advertising assets for the "patent medicine."

Then again there are certain preparations which are "proprietary" or "patent medicines" according to the location. On one side of the Atlantic the product is advertised to physicians only, while on the other side it runs indiscriminately on the billboards and in the newspapers. One of the best examples of this last class is Kutnow's Powder. In England, where it originated, this preparation, which "dissolves and eliminates uric acid," is consistently lined

up with Beecham's Pills and Pink Pills for Pale People. Full-page newspaper advertisements announce the fact that free samples will be

"SENT TO ALL APPLICANTS"

In the United States, however, Kutnow's have learned from their wide advertising experience that a cheaper and surer way of introducing a nostrum to the public is to advertise it to the medical profession only. By means of advertisements in medical journals (whose space is much less expensive than that of the daily papers) and the liberal distribution of samples which are

"SENT FREE TO PHYSICIANS ONLY"

WEEK ENDING
Jan. 16, 1908.

PEARSON'S WEEKLY ADVERTISEMENT SUPPLEMENT.

589

ARE YOU SURE YOUR KIDNEYS ARE HEALTHY?

TO FLUSH THE KIDNEYS

We are all liable to derangement of Kidney function, it steals on us unawares. The Kidneys are the most important organs of the human body. They are the little governors of our well-being and comfort. If clean and free from uric acid poison we are energetic and happy. If clogged up with gravel and poisonous sediment we are at the borderland of serious disease. If you have a blocked drain pipe you proceed to clear it by a process of flushing. You must apply the same hygienic principle to the kidneys and bladder. You must adopt Professor Lawson Tait's remedy and use Kutnow's Powder, which flushes and cleanses the kidneys and bladder of all toxins. You will thus avoid Bright's disease, gravel and stone. Kutnow's Powder is a perfectly safe remedy, which acts gently and painlessly. Kutnow's Powder does not contain any sugar, and is therefore useful in diabetes. Uric acid is the chief cause of Rheumatism, Gout and other kindred diseases. Kutnow's Powder is not only a perfect solvent of uric acid, but it eliminates all excess from the system. No one, ill or well, ought to be without this morning dose of Kutnow's Powder. May we send you a package free of charge?

TAKE KUTNOW'S POWDER

Are you willing to test Kutnow's Powder in order to judge its beneficial effect?
Would you like to be free from distressing headaches and nervous exhaustion?
Is it your wish to keep the system clean and free from poisonous deposits?
Do you know that Kutnow's Powder will rid you of dyspepsia and liver troubles?
Is it your wish to have a clear, healthy-looking complexion, a good skin free from pimples, blackheads and boils?
If you will kindly fill in the form below we will send you sufficient of the remedy to thoroughly test it, free of charge.

A FREE TEST.

SIGN THIS FORM.

Cut out and send to S. KUTNOW & Co. Ltd., 41 FARRINGTON ROAD, LONDON, E.C. By return of post you will receive this valuable remedy free of charge.

(WRITE IN CAPITALS.)

NAME.....

ADDRESS.....

Powder's Weekly 14,100.

This form, posted in an open strathgip, requires only 14. stamp.

TEST IT, FREE OF CHARGE!

Rev. F. L. Bullen

WRITER:

"Walsley, Church Lane, Highfield,
"Southampton, October 22nd.

"I only wish I had tried Kutnow's Powder years ago. In my case it has proved to be an agreeable and gentle aperient, cleansing the liver and kidneys, relieving the brain of any symptoms of pain or discomfort, and regulating generally the whole organic system."

Mrs. A. L. Whalley

WRITER:

"69 Hornsey Road, Anfield, Liverpool.
"27th September, 1908.

"Dear Sirs,—I have tested the sample of Kutnow's Powder which you so kindly sent me, and cannot thank you sufficiently for the power of good it has done me. I have recommended the Powder to several friends and relatives."

How to Avoid Fraud

The genuine Kutnow's Powder can be had of all chemists at 1s. 6d. per bottle, or direct from Kutnow's London Office for 1s. 6d. per bottle in the United Kingdom. See that the fac simile signature, "S. Kutnow & Co. Ltd." and the registered trade mark, "Hatched-sprung, or Deer Leap," are on the package and bottle.

Genuine Kutnow's Powder

KUTNOW'S POWDER PREVENTS KIDNEY DISEASE

For a Free Sample write to S. KUTNOW & CO. Ltd., 41 FARRINGTON ROAD, LONDON, E.C.

the medical profession becomes the unpaid "barker" for the nostrum manufacturer. At present, therefore, Kutnow's Powder is—in the United States—an ethical (!) "proprietary."

There exists in this country, as most of our readers know, an organization of "patent medicine" manufacturers whose "reason for being" is to get full value received for the \$40,000,000 paid annually in advertising nostrums in the newspapers of the country. This organization is known as the Proprietary Association of America. The now familiar "red clause" in the advertising contracts by which the newspaper forfeits its contract if state laws are enacted

that are inimical to the "patent medicine" interests, is a creation of this organization and has been most effective in making the newspapers the unpaid lobbyists of the nostrum interests. The "silence clause" is another "joker" in the contracts by which the agreement is canceled if matter detrimental to the nostrum "is permitted to appear in the reading columns" of the paper. It is little wonder that with such weapons the "patent medicine" manufacturer has assumed an arrogance that is as disgusting as it is serious.

Great Britain, too, has its "patent medicine" men's organization, which is known as the Proprietary Articles Trades Association. Of both these honorable bodies Mr. S. Kutnow of Kutnow Brothers, Ltd., is, or was, a conspicuous member. At a recent meeting of the British organization, Mr. Kutnow worked himself into a fine frenzy of indignation because of some articles that had appeared in the *Pharmaceutical Journal* of London on the subject of "Secret Remedies and Proprietaries." As these articles did not specifically mention Kutnow's Powder, and as evidence was directed against only those preparations as were most disreputable, it is evident that Mr. Kutnow now appraises his own product at its face value. He gave his opinion of the *Pharmaceutical Journal* and told the meeting that when the advertising man for that journal solicited advertising he refused to have any more dealings with him owing to the articles that had appeared in the *Pharmaceutical Journal*. He declared that he was quite independent of any newspaper or journal, and was able to take care of himself.

Therein Mr. Kutnow is mistaken; he is not independent of newspapers and journals. On the contrary, he and others of his ilk are most subserviently dependent on them. Let reputable papers and medical journals refuse, for but one year, to carry the high-flown advertisements of his Anglo-American Patent-Proprietary, and his firm would perforce seek some worthier, if less profitable, line of business.

The editor of the *Pharmaceutical Journal* resents Mr. Kutnow's "implied assumption that by inserting paid announcements in the advertising columns of a newspaper, he or any one else, can dictate the policy of that organ."

The *Pharmaceutical Journal*, it should be said, is the official organ of the Pharmaceutical Society of Great Britain, and is the most influential organ of the drug trade in the British Isles. It is refreshing to note, in these days of "canned" editorials and paid "write-ups" masquerading as original articles, that there is still to be found a journal that can not be bought.

One wonders whether a large experience in the advertising world, and especially his membership in the Proprietary Association of America, has unconsciously led Mr. Kutnow to

assume that muzzling the press is one of the perquisites of the large purchasers of advertising space.—(*From The Journal A. M. A., Aug. 31, 1907.*)

LYMPH COMPOUND R-H AND ORCHITIC FLUID TABLETS

A physician wrote THE JOURNAL:

"I have under my care a patient with chronic parenchymatous nephritis. Microscopic examination shows occasional epithelial casts, with hyaline and granular casts. The patient feels well and appears to enjoy the best of health. Please give me your opinion on the use, in such a case, of the lymph injections put out by the Animal Therapy Company of Chicago, from whom I have just received a supply of literature."

THE JOURNAL replied as follows:

"The Council on Pharmacy and Chemistry took up for consideration the 'Lymph Compound R-H,' and 'Orchitic Fluid Tablets,' sold by the Animal Therapy Company and refused them recognition.

"The treatment of a case of chronic parenchymatous nephritis is a task requiring the best judgment and the greatest knowledge that the physician can command. From the first his aim should be to do no harm, and with this in view he will recognize that since we do not know the cause of this disease, and since we are unable to influence the essential process in the kidney, the administration of a remedy capable of doing harm should be undertaken only under the clearest indications. It is probable that the remedy proposed, containing, it is asserted, a mixture of foreign proteins, might injure healthy kidneys, to say nothing of sick ones. It is well known that foreign proteins, such as the white of egg, if they enter the circulation unchanged, are excreted by the kidney and are liable to produce serious irritation, which in the case of parenchymatous nephritis might easily aggravate the existing condition and frustrate all other efforts at a cure. More especially is it imperative to do no harm when, as in the case reported by our correspondent, the patient appears to be in good health. Two questions should be raised in that case. First, is there any evidence that the occasional excretion of a few casts, whatever may be their variety, is actually doing the patient any harm? And second, since there are no symptoms, what possible improvement could be expected from treatment? It is admitted that we have no remedy which can affect an essential change in the condition of the diseased kidney. What must be done in such a case is to spare the kidney—to require of it the minimum of functional activity. In such a case, the physician who introduces an animal protein, foreign to the human system, would be taking a serious responsibility. The chances are that it would do harm; how great, no one can tell. If the physician can really make up his mind to experiment at the risk of the life of his patient, this case appears to be one unusually favorable to the manufacturer of the serum. There are chances that the diagnosis may be incorrect and that such a condition of the

urine does not indicate a serious condition of the kidney. It is frequently the case after an acute infection, or some similar irritation, that the kidney continues for some time to excrete albumin and casts, but the condition eventually clears up. In such a case, if the serum did no harm it would be given the credit of curing the patient, who recovers in spite of it. It is a little unfortunate, however, for the purpose of such demonstration that the patient is said to feel well. If only he could be persuaded that he has a serious disease so that he might be somewhat depressed mentally, the effect of the cure would be more remarkable!

"If the physician to whom such a patient comes for advice, instead of taking the wise course of seeking reliable information, were to take at their face value the statements of interested commercial manufacturers—if he were to administer this unknown and dangerous remedy, the effects of which he cannot predict—he would commit a breach of trust more culpable than the most vicious attempts of the nostrum-maker to mislead the physician and the public."—(*From the Journal A. M. A., Dec. 14, 1912.*)

LYSOL—THE EVOLUTION OF A PROPRIETARY

Regarding certain proprietary preparations and their equivalents found in the pharmacopeias or other standard works of reference, it is often questioned whether the proprietary is the original and the official preparation the imitation, or vice versa. As a general proposition, medicinal compounds and preparations are not born but evolved, as in the case of epinephrin, in which the credit of discovery belongs to no one person, but to several.¹ So it is often the case that the proprietary and official preparations may be based one on the other, while both are usually based on some preparation which antedates them. This is well illustrated by the proprietary preparation Lysol, the practical equivalent of which—liquor cresolis compositus—is official in the United States Pharmacopeia. After the discovery of phenol (carbolic acid) and the recognition of its germicidal value, it was gradually learned that other phenolic compounds occurring in the crude distillates from tar and wood were more efficient and less poisonous than phenol (carbolic acid). When this was discovered, attempts of course were made to utilize these higher and more efficient phenols, which meant that their insolubility in water had to be overcome. In these attempts there were efforts to form new compounds as well as a search for simple solvents. While the first failed, because these compounds were less efficient than the phenol from which they

1. THE JOURNAL A. M. A., March 25, 1911, pp. 901, 910.

were made, a simple solvent was found in soap. The first attempt to utilize the solvent power of soap gave creolin, a mixture of the so-called crude carbolic acid (really containing but little phenol and consisting largely of higher phenols along with inert hydrocarbons) with soap. This was followed in 1884 by Schenkel's discovery that a portion of this "crude carbolic acid" could be made soluble in water by treatment with soap. Schenkel was refused a patent on the ground that any soap manufacturer should be permitted to add phenol to his soap, but in 1889 a patent for a cresol-soap solution was granted to Damann, who used cresol, a constituent of "crude carbolic acid." The preparation was put on the market and has since been widely advertised under the proprietary name "Lysol."² It is thus seen that Lysol is a good example of the way in which manufacturers appropriate the discoveries of others, develop them and turn them to proprietary use.

The ill-deserved patent protection for Lysol happily expired long ago and the product can now be made by anyone. In view of the non-descriptive character of the name "Lysol" and the danger in using such names in connection with potent and poisonous remedies, this cresol-soap solution has been admitted to pharmacopeias, not under the original name "Lysol," but under descriptive names such as that in the United States Pharmacopeia—"liquor cresolis compositus."—(*From The Journal A. M. A., Dec. 14, 1912.*)

THOMPSON'S MALTED FOOD COMPANY

And Its Blood, Nerve and Tissue Builder, "Hemo"

During the past eighteen months THE JOURNAL has received inquiries from physicians in various parts of the country asking for information regarding "Thompson's Malted Food Company" of Waukesha, Wis., which for some time has been selling and trying to sell its stock to physicians and others. In reply THE JOURNAL called attention to the fallacy of any concern trying to induce people to purchase its stock on the ground that the Bromo-Seltzer company, the Postum Cereal company and others had been successful.

The earlier name for the Thompson concern was "American Malted Food Company" and originally it had its office and factory in Milwaukee. Its products are "Malted Milk," "Malted Beef-Peptide" and "Hemo." As long ago as 1911 the company was sending out glowing descriptions of the money that might be expected to be made by investing in the concern, which was then known as the American Malted

2. Pharm. Ztg., Oct. 14, 1908, p. 817.

year's time" and that even then it had "found it advisable to curtail the sale of stock so as not to exceed the prescribed number of shares to any one person." In 1914, however, the company still had its representatives in the field offering stock for sale.

In November, 1913, one physician wrote that three years previously he had purchased stock in the company and *at that time* (1910) was given to understand that dividends would be paid in at least a year! He has received no dividends to date. Other physicians have written that the company's agents in attempting to sell stock have given the impression that the concern either is paying dividends or is about to pay dividends. Still other physicians say that the agents made no claim to them that the concern was paying dividends. To quote from a few of many letters together with the date of the communications:

"Alluring promises of big profits in the near future have been held out by the canvassers. . . ." (September, 1913).

"No actual promise was made but it was 'estimated' that dividends would be declared 'about the first of the year'" (November, 1913).

"After I said I wouldn't buy any stock was told the company was already paying dividends and I was turning down a good thing." (March, 1914).

"The agent gave me to understand that the profits of the company were enormous and that large dividends would be paid in the near future." (March, 1914).

"Mr. ——— [the agent] told me the company expected to pay dividends as soon as all the stock had been sold." (May, 1914.)

"The agent gave me to understand that they were about to pay very generous dividends and that it was a chance to get in on the ground floor on a good thing." (May, 1914).

The price asked for stock during the past year or more has been \$1.50 a share, the par value of the stock being held at \$1.00. At various times, however, the stock seems to have been purchasable from other sources at a much lower figure. A physician writing September, 1913, stated that he had just been solicited to purchase stock in the Thompson Malted Food Company at \$1.50 a share, and that immediately he wrote to two firms, one in Chicago and one in Milwaukee, that sell unlisted securities, asking the price of Thompson's Malted Food Company stock. Both brokers expressed the opinion, according to the physician, that at 90 cents a share the stock would be a "good buy," and both offered to undertake to secure stock at that price. One of the concerns sent a circular to the physician offering the stock at 80 cents. The physician thereon canceled his order for stock which he had made at \$1.50 and declared that if he thought at all he would buy from other sources.

HEMO

At the present time the product that Thompson's Malted Food Company seems to be "pushing" is a product it calls "Hemo." According to advertisements, Hemo is "the food that builds up weak stomachs." Hemo, we are told, contains "the iron of spinach, the juices of prime beef, the tonic properties of selected malt in powdered form and the richest sweet milk." Furthermore, "Hemo contains the active principle of selected barley malt . . ." —whatever the "active principle" of barley malt may be.

According to the Thompson Malted Food Company "80 per cent. of the American citizens" are "troubled with anemia" and it is for them that "Hemo has been especially prepared." In a sentence: •

"It is a well-known fact that organic iron can be obtained from animal life as well as from vegetable life, and as the digestive organs of a majority of the people are not equal to the task of supplying their bodies with a sufficient amount of organic iron to maintain a supply of a good quality blood, the lack of which results in numerous nervous ailments—insomnia, diabetes, rheumatism, anemia, tuberculosis, etc., it has been found necessary to secure for mankind organic iron in a form that will be concentrated, palatable and most easily assimilated."

This is a sample of the farrago of pseudo-scientific nonsense sent out by this concern in its attempt to sell "Hemo." To continue the quotation:

"With this object in view, the laboratories of Thompson's Malted Food Company have successfully produced and successfully tried out Hemo on the most desperate cases."

In a letter addressed to a physician-stockholder, the statement is made: "Our Hemo-Malted Milk has never had and never will have an equal as a builder of blood, nerve and tissue . . . it will build tissue, nerve and blood in less time than any other food heretofore known."

Disregarding the question whether or not this is a stock jobbing scheme or whether the purchase of the stock is a good investment, there is another side to the matter. It must be evident that the public is not getting a square deal when physicians are financially interested in the products they prescribe for, or recommend to, the sick. Whatever the value of the Thompson products, the method of exploitation and the attempts on the part of the company to get physicians financially interested in its ventures, are to be deprecated. If laymen of a speculative turn of mind wish to invest in the stock of companies putting out "bottled energy," "blood builders" and "nerve repairers" that is their business, but it is certainly neither conducive to the scientific practice of medicine nor to the interest of the public for physicians to be financially interested in products of this sort. —(*From The Journal A. M. A., Oct. 24, 1914.*)

MANOLA

Physicians as Unpaid Pedlers of Nostrums

One of the most disheartening features of the fight against the proprietary evil within the profession is the slowness with which physicians awake to their responsibilities in the matter. It is a notorious fact, familiar to physicians against advertising men alike, that the simplest and cheapest way to introduce a nostrum to the public is through the instrumentality of the medical profession. Ever since the birth of the proprietary evil in this country, shrewd manufacturers have persuaded doctors to act as unpaid pedlers for their wretched nostrums and to become *particeps criminis* in the exploitation of such wares.

Manola is an alcoholic nostrum with just enough more or less inert medicinal products added to exempt it from the internal revenue tax, but not enough to prevent its being used as a tippie by those who object to taking their "toddy" in a simpler form. It is prepared by the Luyties Pharmacy Company of St. Louis, a homeopathic concern whose hahnemannian leanings are not so strong but that it is willing to cater to the various sectarian schools of medicine as well as to the regular profession. Since the promoters realize, doubtless, that to put this stuff out under a homeopathic label might not be conducive to stimulating physicians' confidence, Manola is labeled: "Prepared only by the Manola Company, St. Louis." In other words, it is the old dodge of forming subsidiary companies for the purpose of hiding the identity of the real owners. In this connection, it is worth reminding our readers, incidentally, that the Walker Pharmacal Company, St. Louis, is another subsidiary concern of the Luyties Pharmacy Company, created for the purpose of pushing another nostrum—Hymosa.

Manola is seldom advertised in medical journals. Instead the Luyties Pharmacy Company has discovered a more effective method of "putting one over" on physicians and druggists. The method which has been pursued for years and which, under the same title and subtitle that head this article, was exposed in THE JOURNAL as long ago as May 6, 1905, consists in sending to physicians a letter containing three postcards—unstamped, of course. With the postcard there is a slip that reads:

INSTRUCTION

FOR

OBTAINING

3 BOTTLES OF MANOLA FREE

Dear Doctor: Fill out the attached cards Nos. 1 and 2. Mail No. 1 to us and hand Nos. 2 and 3 to *your druggist*. Impress upon him the necessity of mailing postal card No. 3 *direct* to us, and *not* to his jobber.

Yours truly,

THE MANOLA COMPANY.

The postcards are numbered, respectively, 1, 2 and 3. Here is No. 1:

1	Mail This Card to the Manola Co., St. Louis, Mo.
Date.....19.....	
THE MANOLA COMPANY St. Louis, Mo.	
Gentlemen:	
I have requested Mr. druggist, to order one dozen bottles of MANOLA for my prescriptions. Please include with his order three bottles for me, as per your offer.	
DR. XXXXXXXXXX CHICAGO ILL.	

Dr Ezymark writes the name of his druggist on Card 1, puts a stamp on it and mails it to the Manola Company, alias Luyties Pharmacy Co.

Card 2, addressed to his druggist, also is filled out by Dr. Ezymark. Here it is:

2	Please Hand This Card to Your Druggist
Mr.	* Druggist.
Please order of the Manola Company, St. Louis, Mo., <u>1 dozen</u> bottles of Manola, all of which I agree to prescribe in my practice. By filling out card No. 3 and forwarding it to the Manola Company, St. Louis, Mo., they will include for me, with your order, three bottles of Manola, free, for clinical purposes.	
Yours truly,	
.....M. D.	
Town	

Then the doctor, acting the part of errand-boy, delivers Card 2 and also Card 3 to his druggist. Here is Card 3:

3	PLEASE FILL OUT AND MAIL THIS CARD TO THE MANOLA CO., ST. LOUIS, MO., NOT TO YOUR JOBBER	
Date.....19.....		
THE MANOLA COMPANY, St. Louis, Mo.		
Gentlemen:		
Please ship me us \$ per your offer		
1 dozen MANOLA.....at \$8.00 per dozen.		
1/2 dozen MANOLA, free, for Dr.		
Ship through my jobber:	Signed	Druggist.
M		
Town	Town	
State	State	

This, Mr. Goat, the druggist, has to fill out, affix a stamp and send to the Manola Company. In return for all this, Mr. Goat has his shelves loaded up with a dozen bottles of Manola and, for that privilege pays \$8 out of his own pocket. Dr. Ezymark gets three free bottles. Incidentally, he also gets the contempt of his druggist—and of such patients as learn of it.

The only one who profits by all this is the Luyties Pharmacy Co., alias the Manola Co., alias the Walker Pharmacal Company.

Evidently this method of exploitation pays; that it does pay is a disgrace to the medical profession. To those physicians who have in the past acted as pedlers for Manola we would say: If your patients really need sherry wine let them purchase it under its own name and at the ordinary market price. You will then know what they are getting and you will be able to retain not only your own self-respect but also the respect of your druggist and the public.

The Composition of Manola

Examination of Manola in the Association laboratory indicates that its composition is consistent with its origin, for its medicinal ingredients are present in truly homeopathic quantities. The laboratory report follows:

An examination of an original bottle of Manola gave the following results:

Specific gravity at 25 C.....	1.0329		
Alcohol	18.00	per cent.	by vol.
Non-volatile matter (residue on evaporation)	15.93	gm.	in 100 c.c.
Ash .....	.96	gm.	in 100 c.c.
Phosphoric pentoxid (P_2O_5).....	.0668	gm.	in 100 c.c.
Total alkaloids.....	.0047	gm.	in 100 c.c.
Calcium	Traces.		
Magnesium	Traces.		
Iron	Traces.		
Sodium	Traces.		
Arsenic	Traces.		

Manola is a light amber colored liquid having the odor and taste of sherry wine. The above analysis indicates that it is nothing more than wine, fortified with alcohol and a slight amount of medicinal substances added. The non-volatile matter appears to be nearly all sugar, glycerin, or some similar substance and the presence of less than one gram of ash to 100 c.c. excludes the presence of more than a small amount of organic salts. From the amount of phosphorus found there appears to be about one dose of phosphoric acid to a twenty-ounce bottle. Arsenic is present in such small amounts that the ordinary hydrogen sulphid test failed to

show its presence and the delicate Gutzeit's test had to be used to detect it.—(*Modified from The Journal A. M. A., April 2, 1910.*)

MERCOL

R. Hunt and A. Seidell, Washington, D. C., report the result of an examination of a preparation called Howell's Mercol, manufactured by H. B. Howell & Co., Ltd., New Orleans, and claimed to be a 1 per cent. solution of mercuric iodid in a non-irritating neutral menstruum, and recommended for hypodermic use in the treatment of syphilis. Their examination indicates, as they say, "that although the manufacturers of Mercol may have used a mercuric iodid in its preparation, they have not succeeded in obtaining a 1 per cent. solution of this compound in their 'non-irritating neutral menstruum.' It is furthermore evident that the sample examined as above outlined contains none, or at most only traces, of biniodid of mercury." It is stating it mildly to say that a manufacturer is careless who claims to make an efficient preparation of what is almost a specific for one of the most serious of diseases but which contains practically none of the essential active ingredient.—(*Abstracted from The Journal A. M. A., Jan. 16, 1909.*)

The Component Parts and the Finished Product

After the appearance of the first article, a physician wrote stating he had seen Mercol manufactured, following the process in detail and had himself weighed out a sufficient quantity of mercuric iodid to produce a 1 per cent. solution. He protested that the firm "had no desire to foist on the medical profession or the public a fraud." With his letter he sent a sample of the particular batch of Mercol which he had seen manufactured. This sample was analyzed with the same care and thoroughness that the previous sample had been, and the practical absence of mercuric iodid was again demonstrated. While THE JOURNAL does not question the honesty and good faith of either the manufacturers or the physician, it maintains that claims for remedial agent should be based on the finished product rather than on the component parts used in its manufacture. Without attempting to explain what has become of the mercuric iodid, it insists that the important fact, and the one that vitally concerns both patient and physician, is that the finished product fails to contain it. If the manufacturer has made an honest mistake in supposing he could produce a 1 per cent. solution of mercuric iodid in liquid petrolatum, he will doubtless see that the mistake is corrected. If, on the other hand, he is governed by commercial considerations only, the misrepresentation will probably be perpetuated.—(*From The Journal A. M. A., May 15, 1909.*)

MIDOL AND NURITO

Pyramidon Entering the Patent-Medicine Field

Repeated warnings to the public of the dangers of acetanilid, antipyrin and acetphenetidin and the requirement in the Food and Drugs Act which makes it obligatory to declare the presence of acetanilid and acetphenetidin on the labels of "patent medicines," have been responsible for the growing unpopularity of nostrums containing these drugs.

MIDOL

During the past few months advertisements have appeared in the newspapers of a new "headache cure," the advertising slogan of which is that it "contains no acetanilid or phenacetin."

The name of this preparation is Midol and it is sold under the following claims:

"Instantly relieves headache, neuralgia, toothache."

"Has no depressing effect."

"More effective than antipyrin, acetanilid, phenacetin or similar pain-relieving products."

"Midol is the one safe-to-take aid of sufferers of headache."

"Quickly relieves pain of whatever nature."

"There is no cumulative action."

"No bad effect upon the heart or other organs."

An original package of Midol was purchased and examined in the Association laboratory. The chemists' report follows:

"Midol is sold in the form of white tablets each weighing, on an average, 0.425 gm. or about six and one-half grains. The tablets are soluble in water, chloroform or benzene to the extent of about 80 per cent. The soluble portion appeared to be largely composed of starch, with about 4.5 per cent. of some inorganic matter, probably talc. The chloroform soluble portion was found to consist chiefly of pyramidon, chemically known as dimethyl-dimethylamino-pyrazolon. Besides pyramidon, the chloroform soluble matter contained a small quantity of caffeine and may have contained small amounts of other substances.

"From examination it is concluded that Midol depends essentially on pyramidon for its therapeutic effect."

Pyramidon is a proprietary preparation derived from, and having the antipyretic and anodyne properties of, antipyrin. While some observers have asserted that it is more likely to cause collapse than are either antipyrin or acetphenetidin there is no positive evidence of this assertion. That the use of pyramidon has been until recently practically restricted to physicians may account for the fact that its toxic effects are not as well known as are those of antipyrin, acetphenetidin, acetanilid, etc., which for some years have been indiscriminately used by the public. As the use of pyramidon as a "patent medicine" now bids fair to become as general as the

better known antipyretics, it is probable that its toxicology will become better known.

It is interesting to note that pyramidon in the form of Midol is put on the American market by the General Drug Company, which also acts as a distributor of salvarsan ("606"). The General Drug Company is said to have for its president, W. M. Hoge, who was formerly employed in the comptroller's office during the administration of Herman A. Metz, and the latter being employed by the Consolidated Color and Chemical Works and being president of Victor Koechl & Co. The General Drug Company, in its price list to physicians, lists the "ethical proprietary" pyramidon, but contains no mention of its "patent medicine" Midol.

NURITO

Midol is not the only "patent medicine" in which pyramidon is the essential drug. Nurito, which is advertised as "not a patent medicine but a proprietary preparation," is a ~~po~~strum put on the market by the Magistral Chemical Co., New York. Here are some of the claims:

"Only U. S. P. ingredients are used in Nurito."

"Guaranteed to relieve or your money refunded, Rheumatism, Sciatica, Neuritis."

"There is no compound known in medicine that so rationally, scientifically and effectively removes waste and poisons from the human system as Nurito."

The Association's laboratory recently analyzed a specimen of Nurito. The report follows:

A dollar-size package of Nurito was purchased and found to contain seven powders. The powders ranged in weight from 9 to 12 grains, the average weight being nearly 11 grains. The presence of pyramidon, phenolphthalein and milk sugar was demonstrated. Alkaloids, acetanilid, acetphenetidin, chlorids, bromids, iodids, heavy metals, starch and sulphates were absent. Quantitative examination indicated that the composition of Nurito is essentially as follows:

Milk sugar	34 per cent.
Phenolphthalein	6 per cent.
Pyramidon	60 per cent.

Each powder, therefore, contains about $2\frac{2}{3}$ grains of milk sugar, $\frac{2}{3}$ of a grain of phenolphthalein and $6\frac{2}{3}$ grains of pyramidon.

What was said of pyramidon in the preceding article applies equally well here. The claim that Nurito is composed of "U. S. P. ingredients" is evidently a falsehood. The chief therapeutic ingredients are pyramidon and phenolphthalein, neither of which is described in the United States Pharmacopeia.—(*From the Journal A. M. A., Aug. 10, 1912.*)

MU-COL

Salt and Borax as Wonder-Workers

"Mu-col, for Cleansing Mucous Membranes" is a nostrum put on the market by the Mu-col Company (Inc.), Buffalo, New York. As a specimen of the claims made for the preparation, the following is typical:

"Mu-col obtains most gratifying results in catarrhal inflammations of the mucous membranes. Leucorrhea, Tonsillitis, Sore Throat, Cystitis, Internal Hemorrhoids, Nasal Catarrh and Pus Cases respond at once to irrigation with Mu-col solution. Strong solutions of Mu-col have proven of sterling value in treating Hives, Prickly Heat, Ivy Poison, Sunburn, Eczema, Typhoid and Scarlet Fever."

This, and much more Mu-col will do—according to its manufacturers! No wonder physicians want to know the composition of Mu-col. As the manufacturers do not give this information the aid of the Association's Laboratory was invoked. Let the chemists speak:

LABORATORY REPORT

"The specimen examined was a white powder, and from the odor, thymol, eucalyptol, camphor and oil of winter-green could be recognized. Qualitatively sodium, chlorid and borate were found. Zinc, benzoate, phenolsulphonate and sulphate could not be found. The solution was alkaline to litmus. Gravimetric determination of chlorid as silver chlorid and titration of borax by Thompson's method indicated sodium chlorid (NaCl) 47.2 per cent., sodium borate ($\text{Na}_2\text{B}_4\text{O}_7 + 10\text{H}_2\text{O}$) 50.1 per cent.

"It thus appears that Mu-col is a mixture of ordinary salt and borax in equal parts with the addition of a small amount of aromatic substances."

Mu-col will do just what a solution of salt and borax will do—no more, no less. And yet, it is claimed:

"Mu-col has been successfully used since the year 1900 by more than 50,000 physicians, which has proven it to be the most Efficient, Economical and acceptable, preparation in its field."—(*From The Journal A. M. A., Feb. 7, 1914.*)

NARKINE

The Intangible Product of the Tilden Laboratory

A little book, published by the *Druggists Circular*, and called "Modern Materia Medica," gives in dictionary form the information regarding new remedies which that journal publishes in its monthly issues. Such information is not always acceptable to the manufacturers of various preparations of doubtful value. A case in point is brought to notice with reference to a remedy called Narkine, put out by the Tilden Company of St. Louis. In this little book the following appears:

"Narkine is described as 'an opium preparation from which all deleterious qualities have been eliminated'; an unsupportable claim, as all opiates and other hypnotics are essentially deleterious."

The Tilden Company wrote to the *Druggists Circular*, stating that they guaranteed Narkine "to be absolutely free from coal-tar or opium derivatives," yet the "literature" of the company describes it as

"a specially prepared product of opium devoid of the nauseating and disagreeable properties of this drug, yet possessing the anodyne and soporific principles of same in the highest degree."

To remove from opium all its derivatives and yet retain the anodyne and soporific principles attached to nothing in particular, indicates a degree of pharmaceutical skill seldom attained. One is irresistibly reminded of the Cheshire cat in "Alice in Wonderland," whose smile remained long after the cat had vanished.

The absurdity of the thing, however, has apparently not occurred to many physicians, for these disembodied spirits of the pharmacologic world are evidently being prescribed.

The *Druggists Circular* is to be congratulated on exposing this latest pharmaceutical freak. It does so in a rather striking manner by means of photographic reproductions of the claims of the Tilden Company.—(From *The Journal A. M. A.*, Oct. 24, 1908.)

PAPINE

A Disguised Morphin Solution

To the thinking physician it should be evident that a preparation containing morphin must possess not only all of the valuable properties of this drug, but also all of the objectionable ones. There are still some physicians, apparently, who give credence to the assertions of the manufacturers concerning the morphin preparation from which, it is claimed, all of the undesirable morphin effects have been removed. The following query from a correspondent illustrates this fact:

"Will you inform me as to the contents of 'Papine'? I have a case of chronic interstitial nephritis, and my consultant insists on giving this preparation. I asked him if he knew what drugs it contained and his answer was 'one-eighth of a grain of morphin with the objectionable parts of the drug removed.'"

The query was referred to the Association Laboratory, which submitted the following report:

For many years Papine has been advertised by its makers, Battle & Company, St. Louis, as an anodyne. In the circulars Papine is described in part as follows:

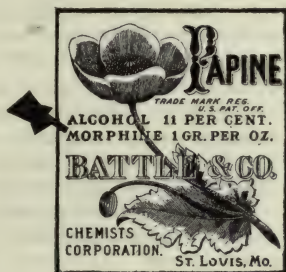
"Papine represents in pharmaceutical form the purely anodyne principles of opium freed from the narcotic and tetanising constituents."

"Papine is the anodyne or pain-relieving principle of opium, the narcotic and convulsive elements being eliminated. One fluid drachm is equal in anodyne power to one-eighth grain of morphin."

"Through special methods of preparation, the anodyne and analgesic principles of *Papaver somniferum* are so extracted as to free them of the narcotic and convulsive elements that ever have been, and must ever continue to be serious objections to the use of opium and its common derivatives. . . . No demand is more regularly made on the physician than that for the relief of pain, and to be able to afford it promptly and completely, without the slightest deleterious action, is an advantage that cannot be overestimated."

"Unlike most derivatives and preparations of opium, Papine neither nauseates nor constipates; nor does it inhibit the secretory functions of the body."

"In conditions of extreme nervousness, especially in women, recourse to morphin is attended by the very real danger of the formation of a habit. Lastly, opium and its alkaloids must not be administered to persons whose kidneys are not in good working order on account of the risk of toxic accumulation."



The Papine label before (on left) and after (on right) the passage of the Food and Drugs Act. And the exploiters of this morphin solution have the effrontery to claim that it does not create a habit!

"No such restriction exists in respect of Papine, its action being exerted exclusively on the element pain; in other words, it is purely anodyne."

"Papine does not nauseate, constipate nor create a habit."

From these statements the incautious physician might be led to infer that Papine is a preparation analogous or similar to the official tincture of deodorized opium. Formerly in the manufacture of the latter preparation, in addition to removal of the odorous substances, narcotin, then thought to be the principal convulsive alkaloid,¹ was also removed. By the process for the manufacture of this tincture, which is now official in the United States Pharmacopeia, most of the narcotine is found in the finished preparation. While it is a comparatively simple matter to remove the narcotin from opium and its preparations; thus eliminating most of the commonly reputed "convulsive ele-

1. Narcotin is now known to possess very little physiologic effect.

ments,"² to remove the "narcotic elements" from opium would result in destroying the integrity of the product. The reasons for this are that morphin is the most powerful narcotic substance found in opium, and it is present in the largest proportion of any of the alkaloidal constituents. Its removal from an opium preparation would, therefore, render that preparation practically valueless.

From Papine, however, the morphin has not been removed, for *since the passage of the Food and Drugs Act* the label has to admit that Papine contains 1 grain of morphin in each ounce!

A specimen of Papine was examined and found to be nothing more than a simple aqueous-alcoholic solution of morphin, containing glycerin. The preparation is flavored to imitate cherry and colored with cochineal. With the exception of morphin, neither narcotin, codein nor other opianic alkaloids were found, while meconic acid, a characteristic constituent of opium, was absent. Since Papine is claimed not to cause constipation, and as is well known, this condition is frequently produced by morphin, it seemed possible that Papine might contain laxative substances. On examination, however, no cascara, rhubarb, phenolphthalein or laxative salts were found.

While Battle & Co. have persistently exploited Papine as being an opium preparation having none of the objectionable qualities of opium, the analysis shows that the paradoxical claims made for it cannot be substantiated. In prescribing morphin there is an abundance of official preparations to choose from, and there certainly is no necessity or excuse for resorting to the much more expensive and in no way superior Papine.—(*From The Journal A. M. A., April 29, 1911.*)

PASADYNE *

A physician asks: "Can you tell me the formula of a preparation on the market called Pasadyne, put up by John B. Daniel, Atlanta, Georgia?"

According to the manufacturer Pasadyne is a tincture of passion-flower. Formerly this nostrum was sold under the title "Daniel's Concentrated Tincture of Passiflora Incarnata." While the manufacturer claims marvelous virtues for this preparation, made from "the fruit, roots and vines of the passion-flower or May-pop," passiflora (passion flower) is now generally recognized as being of little if any value.

A circular makes the following absurd statement:

"Chloral and the bromids, before the recognition and advent into medicine of Pasadyne (Daniel's Concentrated Tincture of Passiflora Incarnata), were widely employed in all turbulent states of the psyche

2. Of the opium alkaloids, laudanin and thebain possess the most powerfully tetanizing properties, but they are present in opium in too small quantities to produce any noticeable effect. Neither of these alkaloids is removed by the usual processes for "denarcotizing" opium.

* See also report on Passiflora and Daniel's Tincture, p. 156.

and, notwithstanding their many untoward, even sometimes dangerous effects, were held in high favor by physicians. For that matter, they still retain some of their old-time popularity, but since the superior value of Pasadyne (Daniel's Concentrated Tincture of *Passiflora Incarnata*) has been demonstrated to the profession's satisfaction, the erstwhile high esteem in which chloral and the bromids were held, is fast waning and ere long Pasadyne will have crowded them out."

The reasons why the drug *passiflora* was not deemed of sufficient value and hence, along with the Daniel preparation, was refused recognition, are given in a report of the Council on Pharmacy and Chemistry.—(*Abstracted from The Journal A. M. A., March 8, 1913.*)

PAS-AVENA

How Its Formula Evades the Food and Drugs Act

Pas-Avena is a widely advertised "nerve sedative and hypnotic." The preparation is put on the market by the Pas-Avena Company of New York City. As a headliner the advertisements of the remedy state that the formula has always been on every bottle, and this, THE JOURNAL states, has a twofold object: It aims to give the impression that the preparation is non-secret, and it is calculated to inspire confidence in the—apparently—scientific nature of the product. As a matter of fact, it should do neither. The preparation is essentially secret in its composition because of the presence in the formula of an unknown quantity and the liability to change of formula at the whim of the manufacturer. On the bottles some time ago the following formula was given:

Each tablespoonful contains:

Passiflora	20 minims.
Avena sativa	10 minims.
Somnalgesine ($C_{30}H_{28}N_5O_6$).....	2 grains.

The first two ingredients are plants in whose therapeutic value but little confidence is placed. Somnalgesine, the third constituent, is a secret preparation, the chemical formula of which the manufacturers were kind enough to add. To a chemist, however, the formula is absurd and impossible, and is included either because of the manufacturer's ignorance or because of an intent to deceive the profession. Since the Food and Drugs Act became law, the label of Pas-Avena has been changed to read:

Alcohol	8.37 per cent. by volume.
Anilipyrine.....	16.00 grains per fluid ounce.
Guaranteed under the Food and Drugs Act of June 30, 1906.	

Substitution of anilipyrine for somnalgesine gives little more information. Chemists may recognize this as a name applied to a mixture said to be formed by the fusion of two molecules of antipyrin and one molecule of acetanilid. To physicians, however, the name carries with it the same mystery as did somnalgesine. Attention is directed to the fact that by publishing the guarantee under the pure food laws the com-

pany presumes to disperse all doubt and criticism, assuming that the majority of physicians will be satisfied with the guarantee as it stands. Inasmuch as the preparation contains acetanilid and antipyrin, however, the manufacturers are disregarding that part of the Food and Drugs Act which requires that the name of the parent substance—in this case acetanilid and antipyrin—be put in parenthesis. The laws are so well defined that physicians appear to be content to do nothing, firmly believing that they are safe from the defrauding methods of unscrupulous manufacturers.—(*Abstracted from The Journal A. M. A., March 7, 1908.*)

Proprietary House Insolvent—and Physicians Lose?

The Pas-Avena Chemical Company, whose product, Pas-Avena, was exposed in THE JOURNAL a few months ago, has recently failed, according to our pharmaceutical exchanges. In recording the fact, one journal says:

"It is reported that considerable stock of this company had been sold to physicians."

At this time, when physicians are importuned daily to invest money in various wildcat pharmaceutical concerns, this sentence might well be used "to point a moral or adorn a tale."

PERTUSSIN

Dr. L. A. Roberts, Dorchester, Mass., writes: "Please tell me what the composition of Pertussin is."

Pertussin is a proprietary whooping-cough remedy manufactured by the Kommandantan Apotheke, Berlin. A "physician's sample" bottle of this preparation sent out by Lehn & Fink bears a label on which appears the following:

"100 parts Pertussin contains:
 $\frac{1}{2}$ Ol. Thymi, et Thymol
 21 $\frac{1}{2}$ Ext. Thymi 'Taeschner'
 50 Saccharum
 2 Glycerinum
 $6\frac{1}{4}$ Alcohol
 19 $\frac{3}{4}$ Aqua Destillata"

While it never has had much vogue in this country it has been and still is used in Germany. It belongs to that class of vegetable preparations which, since they contain no distinctive principle, are difficult to analyze—particularly as concerns the "joker" in the formula, in this case "Ol. Thymi, et Thymol" and "Ext. Thymi 'Taeschner'"—hence there has been much dispute in Germany as to the composition of this nostrum. In general, it appears that whatever virtues it has are due to some preparation of common thyme in a menstruum containing water, sugar and alcohol. At one time the preparation was found to contain potassium bromid; but tests recently made in the A. M. A. Chemical Laboratory indicated the absence of either bromids or iodids.—(*From The Journal A. M. A., March 8, 1913.*)

PHENALGIN—A TYPICAL EXAMPLE *

Last June¹ we devoted considerable space to the extravagant therapeutic claims made for "Phenalgine" by its venders. At this time we propose to refer to the misinformation—to use a conservative term—that the Etna Chemical Company has promulgated regarding the composition of their preparation.

In June, 1905, the Council on Pharmacy and Chemistry officially published to the medical profession of the United States the information that repeated examinations showed that "Phenalgine" is a simple mixture of acetanilid and sodium bicarbonate or ammonium carbonate. So far as we know, no direct denial of the truth of this has been made. There has appeared what we presume is meant as an answer; it is couched in this sentence,

Phenalgine is just what we have always said it to be.

From this expression—which has been repeated in bold, black letters in practically all the advertisements since last June—we presume that we are to understand that in the past they have stated what it is.

It would have been just as easy and more satisfactory if the Phenalgine people, instead of saying: "Phenalgine is just what we have always said it to be," had said what it is, since the average physician has neither the time nor the inclination to look up their literature.

For the benefit of those who desire to know what the venders of Phenalgine "have said it to be," we have gone over their advertising literature of the past, with the following results, which are in the form of quotations from their advertisements:

An American Coal-Tar Product—Phenalgine—the only synthetic stimulant, non-toxic, antipyretic, analgesic and hypnotic.

Phenalgine is the ONLY ammoniated Synthetic Coal-Tar Product made from Chemically Pure Materials [What have the Ammonol people to say to this?—Ed.]

A synthetic Coal-Tar Product of the Amido-Benzene series, containing Nascent Ammonia.

These two chemicals ["stimulant ammonia of coal-tar origin" and "chemically pure phenylacetamid"] combine under certain conditions so as to obtain a produce which he [Dr. Cyrus Edson] named Phenalgine or Ammoniated Phenylacetamide.

Phenalgine is a compound of peculiar character which can not be extemporaneously made into tablets from the powdered drug, without seriously changing and impairing its medicinal qualities.

We believe these quotations are sufficient to show what the Etna Chemical Company has "always said it to be." In going over the literature for several years past we find the above stated in the same, or similar, words in nearly all of it. From the above four statements may be deduced: 1. They

* For reports and articles on other coal-tar preparations, see pp. 9, 115, 244, 268, 305.

1. See THE JOURNAL A. M. A., June 24, 1905, p. 1997,

have stated that Phenalgin is a synthetic² preparation; 2, they have conveyed the impression that Phenalgin is a chemical compound; 3, they have announced repeatedly that it is the "only" preparation of the kind, and 4, they have claimed that Phenalgin is non-toxic.

We believe that these four statements represent in plain English what the above quotations mean. They are all absolutely false. Phenalgin is not synthetic; it is not a chemical compound; it is not the only ammoniated phenylacetamide, or the only acetanilid mixture containing carbonate of ammonium—and it is most positively toxic.

In one place it is stated that Dr. Cyrus Edson

Employed his great facilities for chemical research and opportunities for chemical experiment for the purpose of producing a formula for a combination of stimulant ammonia of coal-tar origin (sic) and chemically pure phenylacetamide, also a coal-tar product . . . which he named phenalgin, or ammoniated phenylacetamide.

In another place we read that Phenalgin is made

Under the immediate personal supervision of the original inventor of ammoniated coal-tar products.

By comparing this last quotation—which is from a current—1905—advertisement—with the preceding one it will be noticed that we are asked to believe that Phenalgin is made "under the immediate supervision of" Dr. Cyrus Edson—and yet Dr. Cyrus Edson died Dec. 2, 1903. This is equal to Lydia Pinkham's prescribing for the suffering women of American when the dear old soul had been dead for over twenty years.

We have before us a full-page advertisement taken from a recent number of a weekly medical journal, which possibly is meant as an answer to the announcement of the Council on Pharmacy and Chemistry that Phenalgin is a simple acetanilid mixture. The advertisement is divided into two parts; the first part is as follows:

FACTS ABOUT ACETANILIDUM (ANCIENT HISTORY)

It has long been recognized that Acetanilidum and most other coal-tar products are apt to exert a depressing influence upon the heart, but there has never been any doubt about its great value as a pain reliever and temperature reducer. Its therapeutic value has, however, been practically nullified by the danger of cyanosis and other evils caused by its well-known depressant action and the difficulty of obtaining it in a pure state. It being known that certain deleterious substances are often to be found in Commercial Acetanilidum and that much of the injurious effect attributed to this drug is entirely traceable to these impurities.³

2. Dunglison's Dictionary: "Synthetic—In chemistry the formation of a more complex body by the union of simpler bodies." Dorland's Dictionary: "Synthesis—The artificial building up of a chemical compound by the union of its elements." "Union" is not mixing.

3. This sentence is not complete, but, of course, this is immaterial. Little things like an incomplete sentence do not count.

The above are also falsehoods. The therapeutic value of acetanilid is not "practically nullified . . . by the difficulty of obtaining it in a pure state." Neither is it true that "much of the injurious effect attributed to this drug is entirely traceable to these impurities." While deleterious substances may be found in *commercial* acetanilid, they are not found in the substance offered as medicinally pure acetanilid by reputable firms. Pure medicinal acetanilid is a cheap article, costing less than 30 cents a pound, for it is a substance that is easily and cheaply purified. It is a fact that the injurious effects are in the acetanilid itself and not in the impurities it may occasionally contain.

The second half of the advertisement in part is as follows:

FACTS ABOUT PHENALGIN (MODERN SCIENCE)

More than a decade ago the late Dr. Cyrus Edson, then Health Commissioner for New York City and New York State, recognizing the value of chemically pure Acetanilidum as a therapeutic agent, if it could be deprived of its depressant quality, employed his great facilities for chemical research and opportunities for chemical experiment for the purpose of producing a formula for a combination of Stimulant Ammonia of coal-tar origin and chemically pure Phenylacetamide, also a coal-tar product. These two chemicals combine under certain conditions so as to obtain a product which he named Phenalgin or Ammoniated Phenylacetamide.

There is more of the same character. In the first place, we call attention to the fact that "Phenylacetamide" is substituted for "Acetanilidum" when it is to go into Phenalgin. To mystify is one of the "tricks of the trade." Few physicians keep up with chemical terms and, therefore, are not supposed to know that Phenylacetamide is one of the chemical names for Acetanilid.

The reference here to Dr. Cyrus Edson brings up another fact, and that is that the Etna Chemical Company tries to convey the idea that Dr. Edson was the originator of Phenalgin. We have always understood that Dr. Cyrus Edson had something to do with pushing Ammonol and, if we remember rightly, got into some trouble thereby. We do not know the exact facts, but the following letter shows that he had a leaning toward another "ammoniated phenylacetamid." The letter is dated "New York, Oct. 6, 1894," and is addressed to the "Ammonol Chemical Company."

"During the past six or eight months I have used Ammonol extensively in my private practice. I have found it excellent in the treatment of neuralgias and for rheumatism. I have also verified your statement in two cases that were suffering from alcoholism. My experience justifies me in saying that it is the safest and best of the analgesic coal-tar derivatives.

"Very truly yours.

CYRUS EDSON, M.D."

It may be of interest to know that the principal member of the firm of the Etna Chemical Company was at one time a member of the Ammonol Company, and it is usually understood, we believe, that Phenalgin is practically the same as Ammonol—in fact, the analyses published regarding the two preparations show this to be a fact.

We must make one more quotation:

It makes little difference to a physician whether Phenalgin is a mixture or a compound or a synthetic, with a name that would destroy the orthographic balance of the universe, provided it is just what he has always found it to be.

Very complimentary to the intelligence and common sense of physicians, is it not?

Suppose some fellow should get up a scheme to exploit a mixture of quinin and some cheap, harmless substance, say, starch—equal parts of each. Suppose he gives it a fanciful name, puts it on the market at a high price, say \$1.25 an ounce, and announces it as a new synthetic with wonderful therapeutic qualities. Suppose that the schemer then adopts the nostrum vender's methods of fooling physicians into using his product by getting some to give testimonials, others to furnish write-ups, and then subsidizes medical journals through liberal advertising to print both the testimonials and the write-ups. The preparation would, of course, prove to be a good thing if it were used in liberal quantities where quinin would ordinarily be used, and some patients using it would get well even if quinin were not indicated. Then with the psychologic effect of the testimonials, the write-ups, and good, strong claims rightly pushed, unthinking physicians would do the rest. And then, after a while, when the schemer had gotten to the point where, each year, he was making a fortune out of his preparation, suppose some "self-appointed chemists" should examine into the preparation and discover that it was nothing but quinin and starch, and so announce to the doctors of the country; what would the doctors say? That it makes little difference "provided it is just what he has always found it to be!"

This analogy is not far-fetched, for it is practically what has been done with Phenalgin. One difference is that since quinin costs as much per ounce as acetanilid does per pound, the profits on the acetanilid mixture would be sixteen times greater than that of our imaginary preparation. Another difference is that acetanilid is really a dangerous drug, unless used with care, both in its immediate and in its remote effects; quinin is far less so.

"Little difference" indeed, whether we are being buncoed or not! Evidently!

In conclusion, we charge the Etna Chemical Company with intentionally misleading and deceiving the members of the medical profession, in that the said company has in its litera-

ture and its advertisements conveyed the impression (whether directly stated or not): First, that its preparation, Phenalgin, is a synthetic compound; second, that Phenalgin requires special skill in its preparation; third, that Phenalgin has therapeutic values which it does not possess; and, fourth, that Phenalgin is non-toxic.

We also charge that on account of these and other misrepresentations, this company has inveigled physicians into prescribing and using a simple mechanical mixture of common well-known cheap drugs—for which an extravagantly high price is charged—under the supposition that this combination of cheap drugs is a chemical compound of special and peculiar merit as a therapeutic agent, and, therefore, worthy of their confidence.

Our object in again giving space to this preparation—and practically all we have said applies to the other acetanilid mixtures that are exploited under fictitious names or as chemical compounds (such as ammonol, antikamnia and sal-acetin or sal-codeia—Bell)—is to impress on physicians, by a typical example, the shamefulness of the deceptions practiced on them by nostrum manufacturers to the great injury of the public and of the medical profession.

A Pharmaceutical Secret Which Should Not Be Lost

Dr. Gregory Costigan, New York City, writes under date of January 21, as follows:

"I have been carefully reading and enthusiastically approving your articles on the nostrum evil, and have been impressed more than usual on the existence of quack advertising in medical journals as set forth in last paragraph and quotation on page 206, bottom of first column, of your issue of Jan. 20, 1906.

"In *Merck's Archives*, page 11, we are told in an advertisement on 'Phenalgin' that it 'is a compound of peculiar character which cannot be extemporaneously made from powdered drug' and 'our process of manufacturing tablets is coincident with the manufacture of Phenalgin and is the result of a long series of careful experiments by which we are able to produce tablets of Phenalgin in a friable condition without losing any of its *volatile* constituents or undergoing chemical changes from heat or moisture! Inasmuch as Phenalgin tablets are not covered with a waterproof coating I think this is a remarkable statement to make, and the manufacturing of a drug coincident with the manufacture of a tablet must be a very remarkable performance, especially because it 'retains the full therapeutic value of the drug unimpaired' while the advertisement asserts that no other manufacturer is cognizant of this wonderful method. This ad. is for the perusal of physicians only. The Etna Chemical Company owes it to the medical and pharmaceutical world not to let this secret die with the company's dissolution. It owes it as a duty to the coming generations of science imme-

diately to jot down the full data of this wonderful performance, to put it away in an age-proof safe and not allow it to be lost to humanity as were a great many other arts that were well known to the ancients. Let them keep it secret now and profit by it, but do not let it be lost to posterity.”—(*From The Journal A. M. A., Jan. 13, 1906, and Jan. 29, 1906.*)

An Ethical (?) Proprietary Exploited Under Fraudulent and Lying Claims

“Phenalgine is a synthetic coal-tar product”—thus ran the advertisements some years ago, when the medical profession was willing to take—or was compelled to take—the word of the manufacturer of proprietary remedies at its face value. Then the Council on Pharmacy and Chemistry was brought into existence. One of the first pieces of work done by the Council was the publication of the results of a number of

“PHENALGIN IS JUST WHAT WE HAVE
ALWAYS SAID IT TO BE.”

—*Etna Chemical Co. in 1905.*

“Phenalgine is a synthetic
coal-tar product.”

—*Etna Chem. Co. in 1898.*

“Unlike the coal-tar syn-
thetic, phenalgine is a
stimulant rather than a
depressant.”

—*Etna Chem. Co. in 1910.*

TEMPUS

OMNIA

REVELAT !

analyses of headache powders. Phenalgine was among them. Analysis showed that Phenalgine was not a synthetic but a simple mixture of the following ingredients in the proportions given:

Acetanilid	57 parts
Sodium bicarbonate	29 parts
Ammonium carbonate	10 parts

The Etna Chemical Company, which puts out this product, was considerably disturbed by the Council's exposure. It “came back” at the American Medical Association with the slogan “Phenalgine is just what we have always said it to be.” What, up to that time, the Etna Chemical Company had “always said” Phenalgine to be, was:

- 1.—Phenalgine is a synthetic.
- 2.—Phenalgine is the only preparation of the kind.
- 3.—Phenalgine is non-toxic.

These, in brief, were the three things that Phenalgine had been asserted to be. Each statement has been proved to be a definite and unequivocal falsehood. Phenalgine is not and

never was a "synthetic." Phenalgin is not and never was the only acetanilid mixture containing carbonate of ammonium. Phenalgin is not and never was in any sense of the word non-toxic. Phenalgin, in short, possesses the properties—both good and bad—that are common to acetanilid. It is a mixture that the merest tyro in pharmacy could dispense and for which any sophomore medical student could write a prescription without stopping to think. Acetanilid sells at 8 cents an ounce wholesale; Phenalgin at \$1.00 an ounce, wholesale.

All these facts and many more were given to the profession by the Council on Pharmacy and Chemistry in *THE JOURNAL* more than six years ago—before even the Food and Drugs Act came into effect. After that law became operative, the Etna Chemical Company was compelled to say something on the label that it had never said before, namely, that Phenalgin contained 50 per cent. acetanilid. But the law not only required them to add a fact to their label, but it also compelled them to remove a falsehood. When the pure food law went into effect, Phenalgin was labeled a "malaria germicide." It is not a malaria germicide and never was a malaria germicide, and the Etna Chemical Company dared not risk taking the question into court so it removed the statement.

Unfortunately the Food and Drugs Act exercises no control over the lying statements that may be made for drugs elsewhere than on the label. So it is that physicians within the last two or three weeks have received a booklet on Phenalgin containing the following assertions for this acetanilid mixture:

"Without the slightest harm, injury or depressing effect."

"Is never followed by depression."

"Its prolonged administration does not give rise to destructive blood metamorphosis."

"Is of great value in the treatment of neuralgia (especially in the anemic.)"

"Freedom from the deleterious action or habit-forming tendencies of the opiates."

"It aids in destroying the malarial parasite."

"Safest and most dependable of analgesics."

It will be seen by this that while the Food and Drugs Act has forced a certain degree of truthfulness on the Phenalgin labels, the advertising matter is as fraudulent and as untruthful as ever it was. It is true that the assertion that it is a synthetic is no longer made, possibly because the medical profession has been so thoroughly enlightened on the much-overworked "synthetic" fraud that the falsehood is no longer profitable. In other respects, the assertions are just as false as ever. It is said to have no depressing effect—and yet it

is acetanilid. It is said to produce no habit—and yet it is acetanilid. It is said to have no injurious effect on the blood—and yet it is acetanilid. It is said to be the safest analgesic—and yet it is acetanilid. How long will the medical profession continue to be hoodwinked by means of such transparent falsehoods?

The Phenalgin concern takes much credit to itself because on the cartons in which the bottles of Phenalgin come, it is stated that the product is "for dispensing purposes only." Yet, as a matter of fact, practically any layman can go to any drug store and obtain this product, for the druggist appraises this spectacular piece of Pecksniffian virtue at its face value—a joke. Why, if intended only for physicians, would it be necessary to include with every bottle a circular naming the diseases, for which this acetanilid mixture is supposed to be good—"headache," "colds," "lumbago," "scanty menstruation," "pain in any part of the body"—and why is the name of the product and of the firm making it blown into the bottle?

To sum up then, Phenalgin is as big a humbug as Peruna ever was. It is sold to-day under claims that are just as false as those used six years ago. The Etna Chemical Company is perpetrating a stupendous fraud on the medical profession to-day and it is doing it not only through the agency of the United States mail, but with the aid and support of the following medical journals—and others—in which the Phenalgin advertisement appears:

<i>Medical Record</i>	<i>American Journal of Obstetrics</i>
<i>New York Medical Journal</i>	<i>Medical Century</i>
<i>Pediatrics</i>	<i>Pacific Medical Journal</i>
<i>Lancet-Clinic</i>	<i>Dietetic and Hygienic Gazette</i>
<i>American Journal of Surgery</i>	<i>Medical Standard</i>
<i>International Journal of Surgery</i>	<i>Eclectic Medical Journal</i>
<i>American Medicine</i>	<i>Am. Jour. of Clinical Medicine</i>

It is conceivable that in some cases it is not easy for those editors and publishers of medical journals who insist on relying on their own judgment to satisfy themselves that certain preparations are not worthy of being advertised. No such difficulty occurs in the case of Phenalgin. Here the issues are clear cut. The product is exploited under claims that are both false and vicious and their falsity and viciousness are perfectly evident to any freshman medical student. The only charitable explanation of the appearance of the Phenalgin advertisements in the medical journals listed is that the editors and publishers have not given the subject the attention it deserves and to which their readers are entitled. Perhaps it would help if their attention were called to the matter by their subscribers.—(From *The Journal A. M. A.*, Jan. 27, 1912.)

PHENO-BROMATE

An analysis of this preparation made at the instance of the New Haven Medical Association, by its chemist, and sent by Dr. Charles J. Foote of New Haven to THE JOURNAL is in part as follows:

The package was marked "Sample package, Pheno-Bromate. The Pheno-Bromate Company, New York, U. S. A." The box contained a number of tablets and a package of powders in papers marked, "Physicians' 10 grain powders, Pheno-Bromate." The substance in the papers was a white crystalline powder not homogeneous. It was completely soluble in hot water. The hot water solution on cooling yielded a mass of thin crystalline plates. This material was found to melt at 113.5 C. It gave no color with ferric chlorid and a positive isonitril test. The portion insoluble in ether amounted to 49.8 per cent. of the powder and consisted of potassium bromid. Quantitative determinations of potassium and bromin in the original solution confirmed this result. In my opinion, the powder consists of approximately equal quantities of acetanilid and potassium bromid. Qualitative tests of the tablets indicated that they had the same composition except for a small quantity of some excipient not entirely soluble in water. Yours truly,

HERBERT E. SMITH,

Chemist New Haven Medical Association.

Before the Food and Drugs Act Pheno-Bromate was advertised as "a synthetic combination of the phenetidin and bromid groups, and not, as is the case with many analgesics and antipyretics, a mixture of various coal-tar derivatives" and as "the safest and best of all sedatives." The dose recommended in most cases is 20 grains—equal to 10 grains each of acetanilid and potassium bromid. Since the Food and Drugs Act has gone into effect its label states that it is "a perfect combination of a phenol and bromin derivative containing 282 grains of acetphenetidin, U. S. P., per ounce." What a boon it was to mendacious manufacturers that the patent rights on phenacetin expired before the Food and Drugs Act went into effect.—(*Abstracted from The Journal A. M. A., July 14, 1906, and April 18, 1908.*)

PHENOLPHTHALEIN

Phenolphthalein has long been used as an indicator in chemical reactions, but its use as a therapeutic agent¹ is comparatively new. When its laxative properties were first

1. Those who wish to study the action and use of this drug further will find references to article in THE JOURNAL as follows: THE JOURNAL, Jan. 5, 1907, pp. 64 and 70; March 30, 1907, p. 1133; April 20, 1907, p. 1351; Nov. 21, 1908, p. 1782; Nov. 28, 1908, p. 1886. The first page mentioned discusses the introduction of phenolphthalein into medicine.

discovered it was exploited as a proprietary in Germany, and it was not long before the enterprising manufacturers in this country saw in it a potential gold mine and now nearly every proprietary drug manufacturer in this country has coined a proprietary name for it and is exploiting it, either alone or in combination with one or more other laxatives, and with more or less unwarranted claims.

Phenolphthalein itself has certain pretty well defined properties, but when a little of some other drug has been added wonderful therapeutic possibilities are claimed for the combination. The drug also has a definite market value and the pure substance in the form of powder, tablets or pills could not be sold at a price greatly in excess of the market value. Thus manufacturers, from business policy, add to it other drugs. There are now on the market numerous more or less secret and "fancy" preparations of phenolphthalein for which a price is charged out of all proportion to the value of the preparation. Among these are:

Phenolphthalein Laxative (*El Zernac Co.*).

Exurgine (*Bischoff & Co.*).

Probilin (*Schering & Glatz*).

Prunoids (*Sultan Drug Co.*)

Laxine (*Columbus Pharmacal Co.*)

Phenolax Wafers (*Upjohn Co.*).

Laxaphen (*Parke, Davis & Co.*).

Phenalein (*Pax Chemical Co.*).

Thalosen (*Abbott Alkaloidal Co.*).

Laxothalen Tablets (*Pitman-Myers Co.*).

Veracolate (*Marcy Co.*).

And additional preparations are still coming out! Some of the preparations contain only the phenolphthalein with a coined non-descriptive proprietary name attached, but most of them contain in addition one or more of such drugs as cascara, sulphur, prune, senna, salicylic acid, ipecac and aromatics. The exploitation of phenolphthalein in this way gives opportunity to the manufacturers to make all sorts of strong claims, some of them directly contradictory, for their preparations. For instance, Phenolax, which is said to contain phenolphthalein and cane sugar, is claimed to be "a great success for all forms of constipation, intestinal atony and hepatic torpor." Of Laxothalen, which is said to contain phenolphthalein, aromatics and sugar, it is stated that "its action is confined to the bowel and it has practically no hepatic action." Of Prunoids, which is said to contain phenolphthalein, cascara, de-emetized ipecac and prunes, we have the old familiar statement that "the harmonious blending of the several ingredients will give results that

cannot be obtained through their use separately, nor will their use be followed by after-constipation."

At the time phenolphthalein was beginning to be exploited in this country THE JOURNAL² suggested that physicians who wished to try the remedy should prescribe it under its own name and not under fancy, coined names. Since phenolphthalein occurs in the form of an insoluble and tasteless powder there is no reason why special pharmaceutical preparations of it should be placed on the market. It can be prescribed in powder form, in pills, capsules or tablets. Thus given, the true therapeutic action of the drug would be apparent and its actual value arrived at.

The vice of this unscientific habit of prescribing names instead of drugs is stated in a forcible way in a letter received from Dr. V. E. Simpson, a teacher of materia medica and therapeutics in the medical department of the University of Louisville. He says:

"Recently P. D. & Co.'s representative left on my desk a sample labeled 'Laxaphen.' The formula given is: phenolphthalein, gr. viii; salicylic acid, gr. 3/5, in each fluidounce, 'incorporated in a palatable chocolate base.' Now, in the first place, this name is one that the public will easily learn and will soon call for; in the second place, it is not a name that carries with it even a suggestion of its contents; and, finally, the physician acquires the habit of mechanically prescribing names instead of drugs, and in the burdening of his memory with the myriad of fantastic labelings he finds it impossible to remember even the drugs any one contains, much less the exact proportions of those drugs. Then suppose that a consultation is had; the consultant asks what is being given and the attendant answers that he is giving 'laxaphen.' The consultant, perhaps, has not been sampled and inquires about it; the attendant must answer. 'Oh, it contains some phenolphthalein and a salicylate, but I have forgotten the exact proportions. I have the literature on my desk.' Had he used U. S. P. and N. F. remedies, which the consultant and every other doctor in the land has access to and should have some knowledge of, this embarrassment would not occur."

All of the above should remind the physician that he should write simple prescriptions, for drugs whose action he knows, adapted to the particular case and not for money-making combinations under fanciful, non-descriptive names exploited by the proprietary manufacturers. In this way he will not only save money for himself and his patients, but he will be giving them exact and effective treatment, he will know exactly what he is giving and learn for himself its effect, and he will be following the only method which entitles him to be called a scientific physician.—(*From The Journal A. M. A., April 30, 1910.*)

2. THE JOURNAL, March 30, 1907, p. 1133.

MIXED VACCINE AND PHYLACOGENS*

The noted advance in therapeutics shown in the development of vaccine therapy has brought with it grave dangers as well as advantages. We have, on a number of occasions, discussed in special articles and in editorials the dangers which threatened from the rapid commercialization of this new method. The unscientific character of mixed vaccines and of the mixed filtered products of a number of vaccines marketed as "Phylacogens" has been especially emphasized and the danger from their indiscriminate use pointed out. A little over a year ago we published a series of articles dealing with the whole subject in which the nature of mixed vaccines was described¹ as follows:

"The mixed stock vaccine of commerce is a makeshift. It is offered as a substitute for correct diagnosis. Like all such makeshifts in science, it is doomed to failure. . . . A burden is being forced on the profession which will speedily assume the proportions attained by proprietary drug combinations. The menace cannot be counteracted unless physicians will accept the guidance of unselfish, non-commercial interests and refuse to purchase and use mixed commercial vaccines."

This admonition to seek the guidance of unbiased scientific observers is deserving of special emphasis at the present time. Five weeks ago we published the address of the chairman of the Section on Pharmacology and Therapeutics, Dr. John F. Anderson,² one of our foremost workers in this branch of biologic science, in which attention was very forcibly drawn to the dangers involved in the use of biologic products of non-specific character. He says:

"Bacterial therapy undoubtedly in some cases is a most valuable method of treatment; but when the claim is made that a combination of the dead bodies or the filtered products of a number of different bacteria are useful for the treatment of certain diseases with a different specific cause, it would seem that the suggestion closely approaches quackery."

Further he says:

"Aside from the doubtful practice of the indiscriminate use of unproved methods of treatment, it has seemed to me that a great injustice is done the patient by their use, since some of the preparations that have been widely exploited have been shown to be harmful in certain instances and even to have caused death. So the first step in attempting to remedy conditions is to awaken the physician to the importance of

* A reprint of articles on the subject of Phylacogens originally published in *THE JOURNAL* is issued under the title "The Phylacogens: A Menace to Rational Therapy."

1. Bacterial Vaccine Therapy: Its Indications and Limitations, p. 37, reprinted from *THE JOURNAL A. M. A.*, April 26-June 28, 1913, price 10 cents.

2. Anderson, John F.: Some Unhealthy Tendencies in Therapeutics, *THE JOURNAL A. M. A.*, July 4, 1914, p. 1.

ignoring the claims of those who are pushing these new methods until their usefulness and harmlessness has been clearly demonstrated by those best in a position to do so."

As a result of scientific methods in teaching therapeutics, physicians have gradually given up almost entirely the use of "shotgun" prescriptions and now prescribe a drug or a combination of a few drugs, each given for the purpose of exerting a definite action. On the other hand, the purveyors of bacterial vaccines have gradually increased the number of different bacteria in their mixed vaccines until some of those now advertised for sale contain as many as seven different kinds of bacteria, and some of the "Phylacogens" contain the filtered products of at least eleven bacterial species!

Under the present federal laws there does not seem to be any way in which the federal government can do more than is being done at present. It is a case in which the physician becomes the sole guardian of the patient committed to his care. He is the one and the only responsible individual. He cannot throw the blame for bad results back to the manufacturer. When he subjects his patient to the possibility of harm by the use of these unscientific and dangerous preparations, the physician assumes the responsibility, whether he wants to or not.

If physicians would report their failures when these vaccines are used, and especially report the fatalities consequent on their use, with the name of the manufacturer of the particular product used, we are quite sure there would result lessening in the enthusiasm of the purveyors of these products.

When tempted by the optimistic statements of the interested manufacturer of these mixtures to give them a trial the physician should remember that the warnings of disinterested scientists are of far more value than uncritical clinical reports put out under commercial auspices.

This we quote from a recent book by Victor C. Vaughan,³ President of the American Medical Association:

"Every time an unbroken protein is introduced into the body it carries with it, and as a part of it, a poison. From the very careless, rash, and unwarranted way in which 'vaccines' of most diverse origin and composition are now used in the treatment of disease, this matter certainly cannot be understood or its danger appreciated by those who subject their patients to such risk. It should be clearly understood that all proteins contain a poisonous group—a substance which in a dose of 0.5 mg. injected intravenously kills a guinea-pig. This poison is present in all the so-called 'vaccines' now so largely used, and it is not strange that death occasionally follows the use of 'Phylacogen' or similar

3. Vaughan, Victor C.: Protein Split Products in Relation to Immunity and Disease, 1913, p. 226.

preparations. Not only do these proteins contain a poison, but when introduced parenterally the poison is set free, not in the stomach, from which it may be removed, but in the blood and tissues. It is possible that vaccine therapy may become of great service in the treatment of disease. Even now there are occasional brilliant results which are reported while the failures and disasters are not so widely advertised."

Such a warning as this quotation contains, from a man so eminent as Dr. Vaughan, merits and should receive the careful attention of medical men; at least it should have as much weight as the "clinical evidence" spread broadcast among our profession by commercial houses.—(*From The Journal A. M. A., Aug. 29, 1914.*)

THE DANGER IN PROTONUCLEIN, A PREPARATION CONTAINING THYROID

Protonuclein was the subject of a little article in our Queries and Minor Notes Department, Nov. 16, 1912, page 1812. Dr. Reid Hunt, Washington, D. C., writes:

"*To the Editor*:—I have been requested by a physician to call your attention to certain statements which might well have been added to your reply to J. A. C. in regard to Protonuclein. Dr. Seidell and I examined several samples of Protonuclein some time ago¹ and by chemical and physiologic tests found that they contained the equivalent of 10 per cent. thyroid of 0.1 per cent. iodine strength (the actual amount of thyroid may have been greater or less for we did not know the percentage of iodine in the thyroid used). The dose recommended on the bottle was 6 to 12 grains every three or four hours; this represents from 0.6 to 1.2 grains of some of the commercial thyroid powders, and is sufficient to cause pronounced thyroid effects in many conditions. Protonuclein was advertised as a 'perfectly harmless antitoxin, tissue-builder,' etc., although the dose of thyroid did not differ materially from that in 'Rengo' and 'Marmola,' two anti-fat nostrums which we examined at the same time. We called attention to the danger of using thyroid, the most powerful tissue-destroying drug known, in cases of typhoid, phthisis, etc., for which protonuclein was recommended, though these are conditions in which the physician is supposed to be exerting every effort to build up the tissues.

"You also speak of the 'high' nuclein content (0.28 per cent. phosphorus): the largest recommended dose would contain only about $\frac{1}{3}$ grain of nucleic acid—an amount which probably has not the slightest effect, especially when given by the mouth.

1. Hunt, Reid, and Seidell, Atherton: Commercial Thyroid Preparations and Suggestions as to the Standardization of Thyroid, THE JOURNAL A. M. A., Oct. 24, 1908, p. 1385.

"A sample of 'Protonuclein Special' was found to have twice as much thyroid as the ordinary Protonuclein; this also was stated to be 'perfectly harmless.'"—(*From The Journal A. M. A., Feb. 1, 1913.*)

PURGEN

The physicians of the United States are receiving a neat package containing samples of a German proprietary—Purgen. The container is an ingenious one and, besides the tablets, includes a circular in English, although mailed in Europe, describing the remarkable virtues of this "new synthetic aperient." It has been considered strange that this proprietary, which has been advertised so thoroughly in Europe, Australia, etc., should not have made its appearance in this country. Now it is here, and it is well that physicians should know what Purgen is and not be mystified and misled by the literature that they may receive regarding the preparation.

The following appeared in THE JOURNAL, Jan. 5, 1907, page 64, and is reprinted now as being especially timely:

The report of a case of poisoning by Purgen (phenolphthalein) is the occasion for some pertinent observations by Dr. G. Brasch as to the proper introduction of such remedies to the medical profession (*Ztschrift für Medizinalbeamte, Abst. in Apotheker-Zeitung*, No. 59, 1906). He agrees with Best that all such remedies should first receive a thorough trial in an institution subject to state supervision, before they are advertised to the medical profession, so that their harmlessness in appropriate doses may be ascertained by a method free from liability to error. The manner in which the manufacturers introduced Purgen to the profession and the laity is to be condemned, and probably led to the symptoms of poisoning exhibited in the case of Dr. Best and tends to discredit a remedy which is harmless and efficient if used in proper doses. The manufacturer of such a preparation is inclined, for obvious reasons, to put the dose of his preparation much too high. The most important point, however, is the objectionable character of the names given to such articles. The organic compound phenolphthalein has been known for a long time and has been widely used as an indicator. Accidentally it was discovered that phenolphthalein possessed laxative properties and thereon it was proposed (1901) as a medicine under the name "Purgen." It is sold in tablets containing 0.05, 0.1 and 0.5 grain phenolphthalein mixed with sugar and flavored with vanilla. The author says: "But it is very desirable—and I regard this as the most important part of my communication—that phenolphthalein should be received into the materia medica under its own name. The addition of vanilla and sugar is to the highest degree superfluous and the arbitrary dosage in three strengths with

the ridiculous designations, 'baby,' 'for adults,' 'for patients confined to bed,' are merely calculated to prejudice the physician who is accustomed to individualize in his prescriptions, against a remedy which is in itself an excellent one."

As explanatory to the last sentence, it should be stated that in Europe Purgen is put up in three dosage forms, "infant Purgen for children," containing $\frac{3}{4}$ of a grain; "adult Purgen for chronic constipation," containing $1\frac{1}{2}$ grains, and "strong Purgen for invalids," containing $7\frac{1}{2}$ grains. The form in which it is being sampled in this country is in the medium dose, $1\frac{1}{2}$ grains.

Physicians should remember that the promoters of Purgen are simply introducing a chemical well known to laboratory workers for the last twenty years, which has been recognized as an aperient for at least seven years, and which can be purchased for 40 cents an ounce, whereas an ounce of phenolphthalein in the form of Purgen will cost \$3.20 wholesale. The enthusiastic praise of the remedy, found in the advertising circulars, should be subjected to critical judgment on account of its source and motives.

It is undoubtedly true, however, as we have previously stated, that phenolphthalein is worthy of a trial. In the *British Medical Journal*, Oct. 18, 1902, F. W. Tunnicliffe speaks of the virtues of phenolphthalein, and the conclusions reached by him were that it is a useful aperient, without irritating action on the kidneys, and is especially valuable in jaundice, its depressing action on the circulation being less than sulphate of magnesia.

Phenolphthalein is not in the Pharmacopeia, but has been included in "New and Nonofficial Remedies" by the Council on Pharmacy and Chemistry. From this we quote:

Actions and Uses.—Phenolphthalein acts as a purgative, but appears to possess no further physiologic action. A case of poisoning from taking 1 gm. (15 grains) is reported. *Dosage.*—For adults the average dose is 0.1 to 0.2 gm. (1.5 to 3 grains) given as powder, in cachets, capsules or pills. It may be given with safety in doses of 0.5 gm. (8 grains), and these doses seem to be necessary to secure its effects in bedridden patients or in obstinate cases.

We have gone into this matter again so that our readers may have some knowledge of this remedy, and we hope that if they conclude to try it they will use the chemical itself and under its own name.—(*From The Journal A. M. A., Sept. 14, 1907.*)

PYÖ-ATOXIN

"To the Editor:—I am sending you a sample of a proprietary preparation that for the past two or three years has been largely retailed in the South and Southwest as a new com-

bination that liberates larger amounts of formaldehyd, etc., in the genito-urinary tract than any known agent, that it is a methylene-formate, entirely new, etc.

"I asked the representative why he had not submitted a specimen to the Council, and his reply was that like Wyeth and others they did not get a fair report, or something to this effect. My reasons for trying to find the truth for their claims is that quite a number of general practitioners have asked me regarding this Pyo-Atoxin.

"W. P. DEY, M.D., Jacksonville, Fla."

Dr. Dey sent with the foregoing letter a box of Pyo-Atoxin which bore this label:

Pyo-Atoxin
Reg. in U. S. Pat. Office
(Capsules)
(Pheno-Methylene-Formate)
"Hurley"
An Antitoxic Agent Indicated in
Gonorrhoea, Cystitis, Pyelitis and
Bacteriuric Conditions.
DOSE: One capsule four to six times daily,
Followed by large glass of water.
Guaranteed by
H. O. Hurley,
Manufacturing Pharmacist,
Louisville, Ky.
Under the Food and Drugs Act, June 30, 1906
Serial No. 1710.

The pseudoscientific synonym "pheno-methylene-formate" carries the idea that Pyo-Atoxin is a definite chemical substance. It is unnecessary to say that the term "pheno-methylene-formate" is a meaningless one and its use reminds one of those preparations exploited seven or eight years ago before the Council began to expose these mixtures masquerading as definite chemical compounds.

The chemical laboratory was asked to investigate this preparation and the following is a report of the chemists:

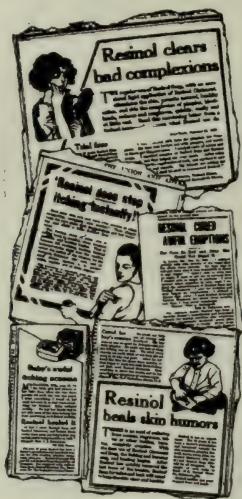
"The box contained thirty gelatin capsules coated with some black substance giving them the appearance of some of the popular gonorrhea nostrums. When the capsules were opened they were found to contain a powder—about 0.35 gm. or 5 grains per capsule—composed of large white or colorless crystals mixed with a smaller amount of a fine dark powder. The crystals when separated out and dissolved yielded the characteristic tests for hexamethylenamin. A solution of the entire capsule content was deep blue and responded to the U. S. P. tests for methylene blue.

"As a result of these and other tests it was concluded that Pyo-Atoxin consisted essentially of two pharmacopeial drugs—hexamethylenamin and methylene blue. A quantitative determination of the constituents was considered unnecessary. From its general appearance and properties, however, the hexamethylenamin probably constitutes approximately from 60 to 80 per cent. of the preparation."

It thus appears that the capsules contain a mixture consisting essentially of two well-known official substances, the value and particularly the limitations of which should be known by physicians by this time. This nostrum is simply another example of how physicians are being humbugged.—
(From *The Journal A. M. A.*, Feb. 14, 1914.)

RESINOL

The Philadelphia branch of the American Pharmaceutical Association issued a pamphlet some two years ago in which the following appeared relative to Resinol and similar products:



"Within recent years there have been introduced a number of compound ointments that in their supposed range of therapeutic usefulness are scarcely equaled and certainly not excelled by the magic unguents of the quacks and charlatans of continental Europe, who, several centuries ago, essayed to cure all manner of disease by inunction or the simple application of compound ointments of secret composition.

"As typical of this modern class of panaceas we may mention Resinol. This preparation is being widely advertised at the present time in the daily papers as a valuable adjunct to Resinol Soap in the treatment of all kinds and varieties of diseases of the skin. The makers of this particular mixture, in the form of an ointment, modestly assert that it will cure all skin diseases, and is also 'A Specific for Pruritus Ani, Itching Piles, and Pruritus Vulvæ.'"—(From *The Journal A. M. A.*, Nov. 6, 1909.)

RESOR-BISNOL

Resor-Bisnol was considered by the Council and refused recognition. The following formula for Resor-Bisnol was at one time given in advertisements in a number of medical journals:

"A scientific combination, in nicely balanced proportions of Bismuth Salts of antiseptic acids of the aromatic series, and Resorcin.

"Each 100 parts contains 20 parts Resorcin, and 52 parts Bismuth Oxid, combined with antiseptic acids."

Besides this formula other "formulas" equally indefinite, vague and misleading have been given in lieu of an actual statement of composition, thus:

"—— is a mixture of resorcin and bismuth salts of phenic acids such as salicylates, etc., and an aromatic alcoholate. Its composition is as follows.

Bismuth salts of phenic acids.....	60 per cent.
Aromatic alcoholate of bismuth.....	20 per cent.
Resorcin	20 per cent."

The product was recently analyzed in our chemical laboratory. The chemists report as follows:

"A specimen of Resor-Bisnol examined by us consisted of a light brown powder possessing a characteristic odor and a taste at first sweetish and then bitter. It was found to be only partially soluble in water. The examination indicates that Resor-Bisnol is probably a mixture consisting essentially of a basic bismuth salicylate (bismuth subsalicylate), a basic gallate of bismuth (bismuth subgallate), a basic compound of beta-naphthol (bismuth betanaphtholate) and resorcinol (resorcin)."

It thus appears that Resor-Bisnol is probably a simple mixture of well-known substances. In other words, the Resor-Bisnol advertising and literature are typical of that issued by various nostrum houses: it conceals the truth in a mass of semi-scientific verbiage, and while not frankly false, it deceives by what is left unsaid rather than by what is said.—(*From The Journal A. M. A., June 1, 1912.*)

ROBINOL AND SEVETOL

Revamping Discarded Theories for Commercial Purposes

It is astonishing how rapidly medical hypotheses become theories and theories are accepted for established facts, when such alleged facts are favorable to commercial enterprise. Yet, as a matter of fact, the manufacturers of proprietary preparations are under a moral obligation, at least, to tell the truth with reference to the scientific basis for their claims. To draw from exploded theories reasons for the use of proprietary preparations is reprehensible, not only because it may lead physicians to use preparations which are worthless, but also because it tends to confirm in the physician's mind opinions which science has discarded.

Robinol

John Wyeth and Brother put up a mixture of glycerophosphates which they call Robinol. In their description of the properties of this mixture they say:

"Phosphorus exists in the brain, nervous system, and vital organs as lecithin, of which glycerophosphoric acid is the most important constituent and is essential to the vital processes for the reproduction of life and maintenance of metabolism in old age, impotence, etc."

The first impression on reading this sentence is that it suggests that *glycerophosphates* are essential to the vital processes, although the statement strictly applies to phosphorus. The next sentence confirms this impression and the mind glissades from the accepted fact of the existence of phosphorus in nervous tissue to the unfounded hypothesis that the glycerophosphates are necessary to supply the essential element. In the next sentence the circular continues:

"In nervous and general debility the glycerophosphates as exhibited in Robinol, are preferable to the mineral phosphates as they contribute the essential constituent of nerve tissue and are absorbed by the cells more readily than any phosphate of vegetable or inorganic origin."

This statement is utterly unfounded. It is in direct opposition to the conclusions of pharmacologists. The glycerophosphoric acid radical is, to be sure, found in the lecithin of nervous tissues, but its source is not known. There is no evidence either that it must be present in the food or that it must be taken as medicine in order that the brain and nervous tissues shall be nourished. When the glycerophosphates are taken there is no evidence that they enter into the composition of the brain or nervous tissue. They are excreted in the urine and feces as phosphates. It has never been shown that glycerophosphates are absorbed any more readily than other phosphates.

But the advertising circular has still more information to impart to physicians:

"In that group of maladies characterized by faulty nutrition, due to the excessive elimination of phosphorus from the body, as is evidenced by the fatigue and weakness following acute attacks and present in many chronic affections, during the course of fevers and in the later stages of phthisis and all diseases of the nervous system, physicians will find the tonic chalybeate properties of the glycerophosphates of great value."

Physicians know, if the nostrum makers do not, how difficult it is to determine whether there is an excessive elimination of phosphorus from the body. The bulk of the phosphates found in the urine are derived from the food and so little comes from the metabolism of the nervous system that it is not easy to prove that any disease is due to excessive elimination of phosphorus from the body. That fatigue and weakness are due to such a loss of phosphorus is mere assumption, a convenient theory for the exploiters of glycerophosphates.

phosphates. But admitting that nervous waste or faulty nutrition is characterized by the loss of phosphorus, it is easier, cheaper and more rational to supply such loss by the use of phosphorus-containing foods, such as milk and eggs, and there is not the slightest evidence that the loss of phosphorus will be influenced in any way by giving a supply in the form of glycerophosphates. Thus, in order to bolster up the sale of a simple solution of glycerophosphates, vague theories and improbable hypotheses are dressed in all the dignity of scientific facts.

Sevetol

There was a time, perhaps a generation ago, when physiologists taught that fats were absorbed into the blood in the form of a fine emulsion. This theory has been definitely disproved and it is now known that fats enter the blood only after a chemical splitting into glycerol and fatty acids, the latter being, to a large extent, combined with alkalies in the form of soaps.

"Sevetol," another Wyeth preparation, is presented to the profession under the claim that it is a very fine emulsion of fats, every portion of which "is readily absorbed through the intestinal wall." To quote:

"The administration of Sevetol, therefore, does not tax the digestive power of the patient, for it is absorbed with very little effort on the part of the digestive apparatus; and even if the organs of digestion be involved, neither the weakness of the patient nor the severity of the symptoms necessarily contra-indicates its use. The amount ingested is limited only by the power of assimilation exhibited in the tissues, and it may be given in large doses for a continued period of time, or until symptoms of overfeeding are produced, such as coated tongue, anorexia, constipation, headache and lassitude. When these symptoms appear, the administration of Sevetol should be temporarily discontinued and a mild but effective laxative given for several days, after which its use may be resumed."

While the language just quoted is a little more exalted and dignified than that found in typical "patent medicine" advertisements, the thought it expresses qualifies it for a place in the "Lydia Pinkham" or "Peruna" class. Every sophomore medical student knows, if he gives the matter any thought, that Sevetol must undergo the same process of digestion as any other fat. It must be broken up into a fatty acid and glycerol, and saponified before it can be absorbed. It is plainly evident that the amount of Sevetol which can be taken is limited not only by the power of assimilation, but also by the power of digestion. The symptoms mentioned in the advertisement and ascribed to overfeeding, are the symptoms, not of a system saturated with absorbed fat, but of digestive organs rebelling against an unusual diet.

The exploitation of Sevetol is but one more case of turning to commercial account an exploded theory. Isn't it

about time that our profession demanded that the purveyors of medicinal products tell the truth? And isn't it time, too, that we cease taking our pharmacology and therapeutics from proprietary manufacturers?—(*From The Journal A. M. A., July 4, 1914.*)

SALACETIN

Some time ago we wrote to Messrs. Bell & Co., calling their attention to the fact that we had made an examination¹ of their product, salacetin, and that as a result of such examination it was found to be a mixture, which did not coincide exactly with their description of it. They replied: "Our description of salacetin is correct and we have nothing more to impart except that anyone publishing any different formula from that given in our circulars will be held responsible by us."

The description they give is as follows:

Prepared by the interaction, with heat, of salicylic acid, glacial acetic acid, and purified phenylamine.

This sounds very scientific, but when we remember that acetanilid is a result of the action of glacial acetic acid on phenylamine (anilin) their description is cute, to say the least. Of course, there is "interaction with heat" when salicylic acid is combining with bicarbonate of sodium to form salicylate of sodium. Further, there is, no doubt, some "interaction with heat" when the substances are rubbed together in mixing them and when they are going through the mill to form tablets, not to mention the heated imagination of the promoters of this "synthetic."

The following taken from the advertising literature furnished by the manufacturers and distributed by them, is quoted to show the claims made for this preparation:

Salacetin is free from Toluodine and produces no harmful cyanosis. In the treatment of Acute Bronchitis, Grippe, Influenza, Tonsillitis, Lithemic Headaches, Rheumatism and Neuralgias, it relieves pain, reduces inflammation and abnormal temperature, and eliminates uric acid more quickly and thoroughly than the salicylates, and without causing depression or stomachic or renal irritation.

Have personally interviewed thousands of physicians, including every prominent one in the East, and can honestly state that we have never known of anything at once so efficient and so unobjectionable in the removal of rheumatic and neuralgic pain and other symptoms of the uric-acid accumulation. . . . In La Grippe and Acute Bronchitis it relieves pain and coughing, reduces inflammation and temperature, makes the patient comfortable, and checks the progress of the disease. In Tonsillitis its action is specific. . . . In Acid Cystitis, it neutralizes acidity, reduces inflammation and removes irritation. . . . In Dysmenorrhea it relieves pain and congestion with no hallucinations, constipation or danger of a drug habit.

¹THE JOURNAL A. M. A., June 3, 1905; reproduced on page 10 of this book.

In Dysmenorrhea and Ovarian Neuralgias try Sal-Codeia—Bell. It will relieve the pain as well as morphia. It will not check any secretions, induce any habit, cause any depression or inconvenience of any kind.

Of course, it is well understood that acetanilid is a valuable remedy in many instances, if used with caution and when indicated. It certainly has some therapeutic value. There is no doubt that it relieves pain of various kinds. It is to be presumed that combining salicylate of sodium with it will have certain beneficial effects in certain rheumatic conditions, on the supposition that salicylate of sodium and acetanilid are both used with more or less success in certain of these conditions. Also, the combining of bicarbonate of sodium, carbonate of ammonium, caffen, citric acid, one or several of these, may result in a fairly good combination, but these combinations can be found in the list of preparations of all our large manufacturing pharmaceutical houses, which supply them at one-tenth of the cost of these secret remedies. The physician in using these preparations put out by reputable recognized manufacturing pharmaceutical houses not only is prescribing preparations that are non-secret, but is using remedies that cost one-tenth as much as the secret preparations, which are exploited under fanciful names and pushed by ridiculous claims.—(*From The Journal A. M. A., July 1, 1905.*)

SAL-CODEIA—BELL

According to the advertisements "Salacetin"

" . . . is a combination with heat of salicylic and glacial acetic acids with phenylamine, the irritating, depressing and blood-corpuscle destroying elements removed."

According to the Committee on Chemistry of the Council on Pharmacy and Chemistry of the American Medical Association, whose report was published in *The Journal of the American Medical Association* June 3, 1905, p. 1791, "Salacetin" is a mixture of acetanilid, salicylate of sodium and bicarbonate of sodium. Sal-Codeia (Salacetin-Codein) therefore would be the same as above with codein added. Of course, acetanilid and codein will relieve pain (it could not do otherwise) and consequently make a very good combination in certain conditions, if not used too often and if used with care. Although the continued use of codein is not likely to produce a drug habit, it, as well as acetanilid, does so sometimes, and it must be remembered that codein is a motor paralyzant, and is not the best combination to be used with acetanilid. For those who wish to give a combination

of acetanilid, salicylate of sodium and codein, the following prescription is suggested:

R	Acetanilid	3 i	4	
	Sodii bicarbonatis	3 ss	2	
	Sodii salicylatis	3 ss	2	
	Codein sulph.	gr. vi		4
M. et div. chart No. xxiv.				

This will make five-grain powders which may be put in papers, capsules, cachets or tablets. Each will contain $2\frac{1}{2}$ grains (0.15 gm.) of acetanilid and $1\frac{1}{4}$ grains (0.075 gm.) each of sodium salicylate and sodium bicarbonate, with $\frac{1}{4}$ grain (0.015 gm.) of codein.

The doses of acetanilid and of codein approximate the average adult doses, but the sodium salicylate, to have any appreciable effect, must be increased, for $1\frac{1}{4}$ grains of salicylate of sodium in a dose is insignificantly small. Sodium salicylate with acetanilid makes a fairly good combination in certain rheumatic troubles, but it is not indicated by any means as a cure-all, as one would judge from the literature sent out by the Sal-Codeia-Bell people.—(*From The Journal A. M. A., Nov. 4, 1905.*)

SANATOGEN

Cottage Cheese—The New Elixir of Life*

The psychology of advertising is nowhere better exemplified than in the "patent medicine" and proprietary fields. The reason is evident. Knowing that the general tendency of the human organism is toward health rather than toward disease and that the "healing power of nature"—*vis medicatrix nature*—will account for a large proportion of recoveries from sickness, it is not to be wondered at that thousands of preparations sold for medicinal purposes receive credit that is entirely undeserved. The awarding of such undeserved credit is largely due to the universal tendency of those who are not trained in science to apply the *post hoc, ergo propter hoc* argument in all matters relating to health and disease.

John Smith suffers from a passing indisposition. When he recovers he credits his recovery to whatever he may have done just preceding that recovery. If he has received medical attention, the physician gets the credit; if he has taken "absent treatment," Christian Science is responsible; if he has taken sugar pills, "Prof." Munyon gets the praise—while, as a matter of fact, if he had taken none of these he would have recovered since he was only temporarily indisposed.

Nor are laymen the only ones that fall into such errors. Many physicians who prescribe new, widely-advertised preparations are likely to give those products credit for whatever favorable change may take place in their patients' con-

* See also Medical Journals and Sanatogen, p. 431.

dition. This failing is not a modern one. In 1842 Dr. Benjamin Brodie wrote: "We have no doubt that many well-instructed medical practitioners have not sufficiently considered what course a given disease would take if it were left to itself; and as to others, it is not possible that they should have any real knowledge on the subject. With the majority of persons a recovery will generally pass for a cure."

THE GRAPHIC, November 29, 1909

713

A GIFT FROM THE
GODDESS OF HEALTH.

Sanatogen

New Life for Nervous Sufferers!

"My nerves are in as awful state!"
That is the daily complaint of millions of people whose lives are ruined by nervous conditions which, if unchecked, may lead to the grave consequences.

To such sufferers there is the possibility of a "new life," with the restoration of all the old fading of physical strength and mental exhilaration which leads life worth living.

This "new life" is offered by Sanatogen, whose merits more than ten thousand specialists have proclaimed in enthusiastic letters describing the marvelous results they have obtained by what is admitted the world's supreme restorative of nerves, brain, and body.

Sanatogen is therefore, preeminently beneficial in nervous debility and breakdown, weakened and disordered nerves, brain-fag, insomnia, loss of memory, disordered digestion and dyspepsia, anæmia, loss of vitality, and the loss of weight and strength which are the inevitable consequences of wasting diseases like Consumption.

Sanatogen's action is due to its composition—milk powder and chemicals of sodium, chemically combined to form a new compound which is at once a food and a tonic, profoundly powerful in its results, yet so bland and mild it itself that doctors constantly prescribe it for young children.

Sanatogen is admirably the supreme restorative in convalescence from all acute diseases, for it is easily digested, rapidly assimilated, and perfectly absorbed.

Hundreds of thousands of people, among whom are many well-known men and women, have unanimously testified that Sanatogen has restored them to perfect health. A selection from their letters appears on this page.

Sanatogen may be obtained of all chemists. Price 1/6 per tin. Descriptive pamphlets will be sent free on application to The Sanatogen Co., 12, Chancery Street, London, W.C.

Send a stamped to-order, mentioning this page.

Dr. Gilbert Parker, R.F.:
"I have used Sanatogen with extraordinary benefit. It is a food and tonic, which has greatly strengthened the nerves, and giving back life to the over-fatigued and old body."

Dr. Frederick Mott, Bart.:
"I have been using Sanatogen for some time, and it works like a charm on the old and grey-haired."

Dr. William Barr, R.F.:
"I consider your preparation, Sanatogen, to be one of the best I have met with in my medical practice."

Dr. Charles A. Cameron, C.B., R.F.:
"Sanatogen is an excellent nerve tonic."

Dr. John Ross:
"I have found Sanatogen a most valuable food and tonic."

The Lord Bishop of Norwich:
"Sanatogen is among the most valuable and refreshing food I have met with."

The Rev. Father Bernard Vaughan,
Fane Street, London, W.:

"Sanatogen produces other good results in the case of the young."

Lord Edward Churchill:
"I have received much benefit from taking Sanatogen."

Lord Ronald Sutherland Gower:
"Sanatogen has done me far more good than all the tonics of which I am fond."

Lady Henry Somerset:
"Sanatogen is a most valuable food and tonic, and has done me much good."

THE LIFE FOOD AND NERVE TONIC

SANATOGEN

REJUVENATES AND REVITALIZES

Greatly reduced photographic reproduction of a full-page Sanatogen advertisement appearing in the *London Graphic*. The *Graphic* was one of the London magazines that refused to accept an advertisement of the book issued by the British Medical Association, exposing "patent-medicine" frauds.

THE POWER OF ADVERTISING

While every physician is perfectly familiar with the facts just stated, it seems worth while to give them as a probable explanation of what is to follow. Within the last few years the medical profession and the public of this country have

been asked to believe that a combination of cottage cheese—or its equivalent—with a small amount of glycerophosphates is capable, when sold under a proprietary name and with the right kind of advertising, of producing physiologic effects that are little short of marvelous.

The name of this elixir of life is Sanatogen, and it is doubtful if the history of modern advertising furnishes any more notable example of the commercial potentialities of publicity than that exhibited in the exploitation of this product. The Sanatogen advertising campaign is probably the most skilful piece of work of its kind ever done. On both sides of the Atlantic, every effort has been made to endow the advertisements with a dignity which, to those who know the very ordinary nature of the product advertised, is grotesquely out of keeping. Only the highest-class magazines and newspapers have been patronized; the "copy" has been so written as to appeal not to the ignorant but to the intelligent. Testimonials from men whose names are well known, even though by training and education they are incompetent to pass judgment on a product of this kind, and fulsomely laudatory letters from men whose education and training should have taught them better—both have been used with all the skill of the trained publicity man. In short, Sanatogen stands as a monument to the power of printers' ink.

The claims for this product have already been referred to in *THE JOURNAL*, but it will do no harm to bring them again before our readers. Heré are some taken from advertisements:

"The Re-Creator of Lost Health."

"Sanatogen is . . . a rebuilding food."

" . . . revitalizes the overworked nervous system."

"Specific nerve tonic action."

"Most reliable and scientific of all nutrients."

" . . . in certain diseases it exerts a *specific action* which renders it a valuable adjunct to other curative measures."

"It stimulates metabolic activity of tissue cells and secures more complete oxidation of energy-yielding elements."

"Sanatogen nourishes the system in a persistent, gradual, cumulative way, so that its best effects unfold themselves in a systematic, substantial progression to health and strength. It follows that a regular and prolonged administration of Sanatogen is necessary for the attainment of lasting results."

"Sanatogen is a scientific compound, every particle of which represents the finest concentrated, tissue-constructing nutriment, endowed with unique revitalizing and rejuvenating powers."

"Sanatogen contains over 700 per cent. more tissue-building, life sustaining nourishment than wheat flour."

Truly a wonderful preparation—if these statements are true! But they are false—most of them at least. And in that many who can ill afford it may be led to pay a ruinously high price for a very ordinary food, the statements are viciously and cruelly false.

In view of the properties with which Sanatogen is credited, its composition is naturally a matter of more than ordinary interest. What is this life-giving product? A package of Sanatogen was purchased and subjected to examination and analysis in the Association's laboratory. Our chemists report:

LABORATORY REPORT

Sanatogen is a fine, nearly white powder having a faint yellowish tinge. A circular which is enclosed in the package states:

"Sanatogen is a definite organic combination of 95 per cent. of pure, specially prepared casein and 5 per cent. of sodium glycerophosphate, . . ."

Qualitative tests indicated the presence in Sanatogen of casein, sodium, a phosphorous compound and glycerin or a glycerin compound. Starch and sugars were absent. Quantitative analysis showed that the composition of the specimen was essentially as follows:

Water (loss at 130 C.).....	8.60
Ash	6.23
Casein and other proteins ($N \times 6.38$).....	83.10
Casein (N in precipitated casein $\times 6.38$).....	80.57
Proteins other than casein (by difference).....	2.53
Sodium glycerophosphate ($NaC_3H_7O_6P$) (P in filtrate from casein precipitation $\times 6.79$).....	5.59
Insoluble matter	0.84
Undetermined	1.87

While these results show that the claims concerning the composition of Sanatogen are not entirely correct, they indicate that the essential element in Sanatogen is casein.

The slight variation between the composition claimed for Sanatogen and the composition as determined by chemical analysis is of minor importance. Whether there is 83 per cent. of casein as found by the Association's chemists or 95 per cent. as asserted by the manufacturers matters little. The important fact is that casein makes up about nine-tenths of the preparation and, as must be perfectly evident, Sanatogen derives whatever food value it may have from that casein. Casein is known in its commonest form as the curd in milk, or as "cottage cheese." After the cream has been separated, the milk which remains contains nearly all the casein and milk sugar originally present but practically none of the fat.

WHY NOT COTTAGE CHEESE?

Whence comes the stimulation of metabolic activity, the wonderful nourishment of the system, the marvelous revitalizing and rejuvenating power claimed for Sanatogen? Not from the sodium glycerophosphate, for the consensus of opinion among leading physiologists indicates that phosphorus in the form of glycerophosphates has little influence on metabolism. Not from the glycerin, surely, for even granting that glycerin has food value the amount present is

so small as to be negligible. The real source of energy in Sanatogen, then, lies in the casein which comprises about nine-tenths of its ingredients.

Of course Sanatogen, being composed largely of casein, has some food value. What that food value is may be seen by the accompanying table which compares the yield of energy for Sanatogen with that of a number of staple food products, the figures for the latter having been adapted from Professor Atwater's calculations. This table shows that, from the standpoint of economy in the purchase of energy, no other food in the list is so poor as Sanatogen. While the manufacturers claim that "Sanatogen contains over 700 per cent. more tissue-building, life-sustaining nourishment than

Kind of Food Material	Price per Pound	Cost of 1,000 Calories Energy	Calories. Energy for One Dollar
Sanatogen	\$4.54	\$3.01	332
Celery .....	.05	.77	1,300
Eggs (\$0.36 per doz.)...	.24	.39	2,600
Beef, round.....	.14	.16	6,300
Milk (\$0.07 per qt.)....	.035	.11	8,850
Pork, loin roast.....	.12	.10	10,350
Butter .....	.30	.09	11,250
Mackerel, salt dressed...	.10	.09	11,350
Cheese .....	.16	.08	11,850
Beef, stew meat.....	.05	.07	15,300
Wheat bread.....	.06	.05	20,000
Rice .....	.08	.05	20,250
Sugar .....	.06	.03	29,200
Pork, fat salt.....	.12	.03	29,500
Potatoes .....	.01	.03	29,500
Beans, white.....	.05	.03	30,400
Oatmeal .....	.04	.02	45,000
Cornmeal .....	.025	.02	65,400
Wheat flour.....	.025	.02	65,400

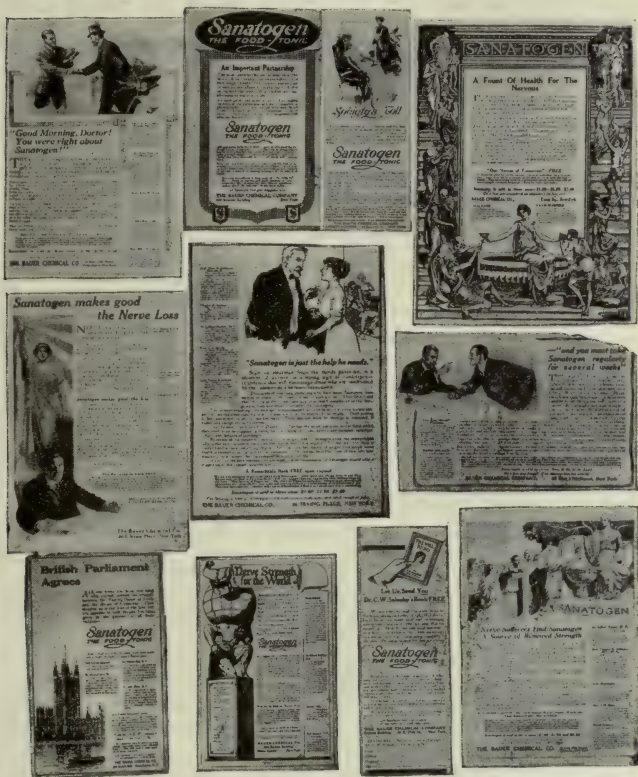
wheat flour," the table shows that one dollar's worth of wheat flour contains as much energy as one hundred and ninety-seven dollars' worth of Sanatogen!

AN INQUIRY

Like all "patent medicines," Sanatogen is exploited by the testimonial route. Actors, authors, politicians and not a few physicians—the latter, to the credit of the American profession, be it said, being chiefly Europeans—have testified to the wonderful properties of this product. Believing that it would be of interest to learn what scientific men thought of Sanatogen a letter of inquiry was written to several men whose training particularly fits them to express an impartial opinion on a question of this kind. The following inquiry, expressed in practically the same words, was propounded:

Is it possible for a product, even if it has the composition claimed for Sanatogen, to have properties as a food and medicine which are claimed for this preparation?

The replies to this inquiry are interesting and instructive, although they are what might have been expected from men whose judgment has not been warped by the glittering claims of the Sanatogen publicity agents.



Some of the reasons for the sale of Sanatogen! A few specimen advertisements of Sanatogen's enormously expensive advertising campaign.

THE REPLIES

Dr. Lewellys F. Barker, professor of medicine, Johns Hopkins University, medical department, says in part:

"If Sanatogen consists simply of casein and sodium glycerophosphate, it is pretty obvious that all of its good effects (except perhaps the psychic influence of taking an expensive and, to the layman, mysterious remedy) can be gotten by including milk and eggs in the food. . . .

"The objection to Sanatogen lies, it seems to me, not in the assertion of its proprietors that it is a 'food and a tonic,' but in the misleading of the public and physicians into the belief that it possesses extraordinary powers which make it worth while to pay the price charged for it in order to get it. Very extravagant claims are being made for it in advertisements in the lay press. If just as much, and more, good in the form of 'food and tonic' can be obtained from a dollar's worth of milk and eggs as from a dollar and ninety cents' worth of Sanatogen, it is surely the duty of the medical profession to inform the public of that fact."

Dr. Frank Billings, professor of medicine and head of the Department of Medicine, University of Chicago, expresses his opinion thus:

"Of course, the thing is a fraud both as a food and as a tonic. Even if it met all the requirements of the statements made of it by the makers, it would not be any more of a food than as much casein taken in milk and probably not as good; or any more than some other albumin taken in some other form. I do not know just what pharmacologists say of the glycerophosphate of soda, but so far as my own clinical observations go I never saw any result from its use that could be called specific, that is, due to the drug."

Dr. Richard C. Cabot, assistant professor of clinical medicine, Harvard Medical School, says:

"In reply to your letter respecting the properties of Sanatogen, I would say that in my opinion it is vastly improbable that it has the properties claimed for it in the advertisements which you enclosed to me. I have no doubt that it is a fairly good food. I see no reason to believe that the phosphorus that it contains has any special action."

Otto Folin, professor of biological chemistry, Harvard Medical School, expresses himself thus:

"For myself, or for any one who would take my advice, I would prefer a glass of milk to Sanatogen when hungry and plain glycerophosphate to Sanatogen when in need of a tonic.

"Medicated feed used to be sold for horses. To me the 'food tonic' combination represents one of the most unscrupulous fake ideas used by manufacturers of patented articles to fool the public."

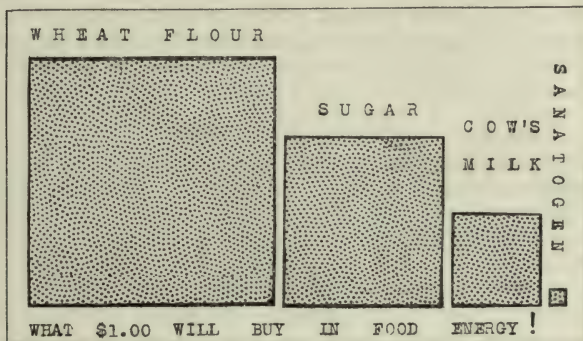
Ludvig Hektoen, professor of pathology, University of Chicago, says in part:

"In my opinion, no attention whatsoever should be paid to the claims advanced in favor of 'Sanatogen' as food and as medicine, because the statements made in the advertisements of this product are extravagant, misleading and quackish."

J. H. Long, professor of chemistry and director of chemical laboratories, Northwestern University Medical School, expresses the following opinion:

"With every reading of the advertising literature of the Sanatogen Company I am more and more impressed by the gross exaggeration of the claims made for this mixture of casein and sodium glycerophosphate. Cow's milk contains $3\frac{1}{2}$ to 4 per cent. of casein, associated with soluble phosphates. It is absurd to think that this casein after precipitation from the milk has a greater nutritive value than it has in its native condition. Casein, at best, is probably less valuable as a food than are certain other proteins, because of its lack of some of the amino groups essential in tissue building, and the addition of a glycerophosphate cannot supply this deficiency.

"This is not the first attempt to exploit casein preparations. The earlier efforts failed in practice because they were based on a wrong conception concerning the physiologic value and importance of this protein. The assumption that in the case of Sanatogen a 'definite organic combination' with the glycerophosphate is formed cannot be taken seriously by chemists.



WHAT ONE DOLLAR WILL BUY IN FOOD ENERGY! A COMPARISON OF THE CALORIC VALUES OF SANATOGEN, COW'S MILK, SUGAR AND WHEAT FLOUR. BASED ON THE TABLE ACCOMPANYING THIS ARTICLE.

We have witnessed many such efforts to palm off mixtures as definite organic compounds, and in this way to claim for them a value in excess of that which they actually possess."

Graham Lusk, professor of physiology, Cornell University Medical College, after calling attention to the falsity of the claim that Sanatogen is "a life-sustaining agent in disease," says:

"If one considers the casein content alone, the dose of Sanatogen recommended in the circular would furnish, at best, about what is contained in a pint of milk, or one-fourth of the total of the protein necessities of the body—using a low protein requirement. That sodium glycerophosphate has any distinctly beneficial physiologic action has never, to my knowledge, been shown.

"It is a great pity that the public does not realize the splendid and economical value of milk, bread and the ordinary

vegetables, cereals and meats, as true 'tonic food stuffs,' in contradistinction to prepared nostrums whose sale depends on a psychic stimulus applied to a susceptible populace."

H. Gideon Wells, associate professor of pathology, University of Chicago, says:

"There is nothing in my knowledge of physiologic chemistry which would lead me to believe that a mixture of chemically isolated casein and sodium glycerophosphate would possess any effect more favorable than that of a corresponding amount of milk. I can easily believe that it would be less valuable than milk. The successful practice of many commercial houses, of isolating one of the constituents of our food, and ascribing to it marvelous nutritive or therapeutic properties, is one of the most telling bits of evidence of the inadequacy of the education of the medical profession in physiology and physiologic chemistry that can be conceived."

The consensus of opinion thus expressed is only what might have been expected from men who could discuss the problem in a purely judicial spirit and with a freedom from that bias which seems to be inseparable from the consideration of the simplest of mixtures that have been glorified by a proprietary name.

THE TYRANNY OF WORDS

Herr Teufelsdröckh was right when he panegyricized clothes. And the worship of clothes is carried to the extreme nowhere so much as in the case of word-clothes. The most plebeian things when bedecked in sufficiently imposing word-finery are endowed with the attributes of royalty before which the average intellect bows down. Neither cottage-cheese nor glycerophosphates, when exposed naked to the world, commands any overweening respect; combined and dressed in the magic word "Sanatogen," they receive the homage of those whose judgment is blinded by the glittering trappings of word-finery. Some day, possibly, there will be a democracy of intellect which will refuse to prostrate itself before mere word-raiment and will insist on appraising things at their naked worth. When that day comes, proprietary humbugs like Sanatogen will have become as extinct as the dodo and the great auk.—(*From The Journal A. M. A., April 20, 1912.*)

The Bauer Chemical Company's "Reply"

To the Editor:—Our attention has been called to a most unfair and unwarranted attack on Sanatogen which appears in your esteemed publication [April 20, p. 1216]. The article is such a perversion of the actual facts, and so completely—if not intentionally—misleading that we request, as a matter of common justice, that you give this reply equal publicity to your attack. The admiration and respect we have felt for your journal and our appreciation of the place it holds in the field of medical journalism, made your attack on a product

like Sanatogen, representing so definitely the most painstaking and scientific research, the last thing expected. Indeed, it seems inconceivable that a journal apparently so alive to its responsibilities could publish broadcast an article so calculated to do harm, without first giving those whose interests are most at stake an opportunity to substantiate their claims.

There never has been a time that we have not been ready to meet any request from THE JOURNAL, or the respected gentlemen composing the Council on Pharmacy and Chemistry, for all information and data concerning Sanatogen. Had we had the slightest inkling that our product—or the claims made for it—were open to question or criticism, we would gladly have submitted all of the evidence, clinical, experimental, and theoretical, on which every statement, however simple, has been based.

To make a response is difficult, because your article is not written in a fair, unprejudiced spirit. In fact, although one would expect a sober, serious consideration of a matter so fraught with importance (if your contention is right) your whole attitude is one of ridicule and jocularly. Is it right to present scientific material in such a way and show so little respect for those who have offered you no affront or done you no injury? A little investigation would have shown you that the statements we have made about Sanatogen are based on the experiences and opinions of such men as von Noorden, C. A. Ewald, Duhrssen, Eulenburg, Neisser, Binswanger, von Leyden, Krafft-Ebing, Tillmanns, Tunncliffe, and thousands of other earnest, reputable physicians. Any one might differ with their conclusions, but is it courteous or decent to hold them up to ridicule and contumely?

Can a discussion thus conducted hope to solve a scientific problem or accomplish any real good?

It would hardly seem so, and with all due respect we cannot help but feel that the situation has its analogy in the legal doctrine, "when you have no evidence, ridicule and abuse your opponent and his client."

Sanatogen is a definite organic combination of (in round numbers) 95 per cent. casein and 5 per cent. glycerophosphate of sodium. The analysis as published in THE JOURNAL fails to show that this statement is untrue. The slight deviation as to the amount of casein present is explained by the fact that THE JOURNAL's figures include the moisture, while ours are on the dry substance. Inasmuch as nearly all the moisture is absorbed after the product leaves the laboratories and is therefore added weight, the figures should be on the dry substance. It is hinted in the article that Sanatogen is a mere mixture of ingredients, in fact one of the gentlemen you quote openly intimates so. To this we say most emphatically that *anyone asserting Sanatogen to be a mere mechanical mixture of ingredients and not a definite chemical com-*

pound either wilfully misstates the facts or does not know. Sanatogen represents a new idea or discovery in the domain of invalid dietetics and as such its process of manufacture as well as the product are protected by U. S. Letters Patent.

Assuredly it is the definite chemical combination found in Sanatogen on which the special value of this product as a medicinal food and tonic depends. A mere mixture of ingredients would represent only the sum-total of their individual virtues, but a definite combination of such ingredients means the formation of a new compound with properties of its own which far transcend those of any simple mixture of the original ingredients.

To compare Sanatogen to cottage cheese is the height of absurdity—as it was probably intended to be. The casein of Sanatogen is perhaps the most carefully purified milk protein available, and this fact is of essential importance when considering the value of Sanatogen as a medicinal food. To compare the casein of Sanatogen with crude commercial casein or with cottage cheese is as ridiculous as to compare a crude drug with the refined element. The same applies to the matter of cost. We suggest that an attempt be made to prepare purified casein according to Hammarsten's method, if one wishes to determine what labor and expense is involved in the operation. Possibly it will be found cheaper to buy Hammarsten's casein in the open market where the price is \$3.50 per pound wholesale! And it is not a proprietary product, either.

Further, to compare the economic value of Sanatogen on the basis of calories is as unscientific as it is deliberately misleading. If the caloric standard only counted, a pound of oleomargarine would be as valuable as fifty eggs, a pound of laundry soap as valuable as a pound of choice beef. Sanatogen is not intended or recommended to replace ordinary foodstuffs. It is not recommended as a caloric or heat producer, but as a food-tonic supplying the essential elements of tissue construction and cell-repair in easily and perfectly assimilable form.

Digestibility, ease and completeness of assimilation count a great deal, and are the sole determining factors in cases of illness. Again, starch and fat are not essential substances to life. Without protein we cannot live. Exclude everything else from a patient's dietary, and he will live. Exclude protein and it is only a question of time before he dies. It is evident, therefore, that to measure the value of a given food in calories only is misleading and dangerous, and an editorial in your valuable publication of November 4 last distinctly points this out.

According to the most careful and extensive experiments, covering a large number of scientifically studied cases, Sanatogen is not approached in the matter of rapidity of diges-

tion and absorption by any other known foodstuff. That such a product does exert a definite stimulating or activating effect on the digestive and assimilative functions, thus promoting the digestion and appropriation of nutritive material has been demonstrated over and over again. That the organic phosphorus of Sanatogen is almost completely retained and assimilated has been proved beyond doubt by carefully conducted metabolism experiments. That from this, and from the stimulating action on phosphorus and nitrogen metabolism, a favorable effect on the nervous system could result, is conceivable. That such an effect does actually take place has been demonstrated clinically in literally thousands of cases.

As to our advertisements and literature: Every claim made emanates from the freely recorded statements of competent observers, checked and rechecked by men who have been absolutely free from all bias or prejudice. And these opinions, moreover, are not the superficial, passing views of a few physicians. Instead our claims are based on the voluntary, unbiased written reports of clinical experiences by over 15,000 practicing physicians—among whom a goodly proportion are members of your esteemed Association—and on over 150 published articles in the leading medical journals of the world, some of which your journal has considered of sufficient importance to present to its readers in abstract form, suppressing, it is true, all mention of Sanatogen, although thereby the original was sadly emasculated, if not actually falsified.

Among the physicians who have carefully tested Sanatogen and determined its dietetic and therapeutic properties are many men of truly international reputation, men who are as far above suspicion as was Caesar's wife. At least one of these men was the honorary guest of your Association a few years ago.

It is such men that your article holds up to contempt and dishonor when you allow the false inference to go forth that Sanatogen is a mixture of casein and glycerophosphates. It is such men's careful researches and experience that you attempt to offset by the snap judgment of men whom we claim, without the slightest intent of disparaging them, to be in the present instance unfitted to give an opinion on Sanatogen inasmuch as they—with perhaps one honorable exception—have never tested or used the product. Their lack of definite knowledge of Sanatogen is shown by their persistent references to casein and the glycerophosphates, as though these two ingredients were separate and not chemically combined. To consider Sanatogen a mixture is to lose the vital detail of its specific value.

Now after all, is this a fair, judicial spirit, is this true scientific enquiry? Are we to accept offhand judgments in

preference to the opinions of those who speak from years of observation of the effects of Sanatogen? In the name of justice and fair play, is it right for the great JOURNAL of the A. M. A. to ignore and suppress the accumulated evidence in favor of Sanatogen and cite instead the cursory opinions of men who have never seen Sanatogen, tested or observed its effect, who by the very nature of your enquiry must have



NO matter what your sphere—SANATOGEN will make you healthier

Whether you are called into public life, are engaged in business, or simply "keep house," you may have felt the debilitating and grinding effects of modern speed and emulation. You may luckily have escaped acute sickness, but have felt tired, dragged down, nervous, irritable, have suffered from headache and indigestion.

You can make the acquaintance through their letters of a multitude of distinguished women in all walks of life who once felt as you do, but have become once more strong, energetic and healthy through the revitalizing and reinvigorating powers of Sanatogen—the food- tonic.

Over 18,000 physicians whose letters are on file corroborate this wonderful testimony by writing of their observations of Sanatogen, stating how it revivifies the nerves, promoting sleep, and helping digestion, how it builds up the blood, creating new strength and the power to do and accomplish.

Sanatogen is purest albumen and organic phosphorus, a quickly and easily absorbed food for tired nerves and depleted cell and tissues which can be pleasantly taken in milk, cocoa, etc., and which leaves no unkind reaction.

Write for a Free copy of "Nerve Health Regained"
If you wish to learn more about Sanatogen before you use it, write for a copy of this booklet, beautifully illustrated and comprising facts and information of the greatest interest.

Sanatogen is sold by good druggists everywhere, in three sizes, from \$7.00

THE BAUER CHEMICAL CO., 34-B Irving Place, New York
Sanatogen received The Grand Prize at the International Congress of Medicine, London, 1913

Prof. Thomas B. Stillman, M. D., Ph. D., the well-known research chemist of New York, writes:
"The chemical union of the constituents of Sanatogen is a true one, representative of the highest skill in the formation of a product containing phosphorus in the organic phosphate condition and so combined that digestion and assimilation of Sanatogen are rendered complete, with the greatest ease."

JOHN BURROUGHS, the distinguished naturalist and author, writes:
"I am sure I have been greatly benefited by Sanatogen. My sleep is 80 per cent better than it was one year ago, and my mind and strength are much improved."

Prof. C. von Noorden, of Vienna University, writes:
"Sanatogen is of especial value in various forms of anemia and general debility. It is an excellent albuminous preparation."

Lady Henry Somerset, the prominent social reform advocate, writes:
"Sanatogen undoubtedly restores sleep, invigorates the nerves and brings the patient to health. I have watched its effect on people whose nervous systems have been entirely undermined and I have proved Sanatogen to be most valuable."

The above is a reduced reproduction of a full-page advertisement in a magazine devoted to pseudo-scientific fads. The advertising pages of this magazine reek with frauds.

been influenced subconsciously in favor of your side of the matter.

During the twelve years Sanatogen has been used, prescribed and recommended by thousands of competent physicians, it has been free from all secrecy. The truth has been told at all times. From the first we have cooperated with the profession. Never have we failed to safeguard the doctor's

interests. Never have we suggested by word or inference that any person should employ Sanatogen to the exclusion of medical treatment. Not a day passes but we refer people who inquire about this or that bodily ill, to their physicians for advice.

We regret the length of this letter but feel that the scientific character of Sanatogen, its well-defined chemistry and the respect we owe to the men who have not hesitated to give their honest opinions concerning its food and tonic effects, make it imperative that we refute at once errors and misleading statements, and correct to the best of our ability the wrong impression you have allowed to go forth. The clinical reports and statements and the scientific evidence on which we have based our claims are constantly available and may be examined by any responsible person for verification or any other legitimate purpose.

We have tried to make this article temperate, fair and free from ill temper and ill feeling. We only ask for justice and feel that you will be willing—possibly anxious—to correct, so far as you can, the great wrong you have done us.

THE BAUER CHEMICAL CO.

By F. W. HEHMEYER, Resident Manager.

[COMMENT: We devote considerable space to the above free advertisement of Sanatogen, as THE JOURNAL does not want to be accused of being unfair, even to patent medicine venders. As our readers will recognize, the above is simply a reiteration of the statements that have been published in the advertisements of Sanatogen. The song that runs through all the advertising matter is that Sanatogen is a chemical compound, and since it is a chemical compound it therefore possesses properties not to be found in the ordinary mixture. It is the old, old story; the "synthetic" argument is as hoary as the nostrum business itself but fortunately the medical profession is no longer easily fooled by it.

As a matter of fact, even assuming for the sake of argument that the casein and glycerophosphate in Sanatogen are in chemical combination, it would be a union of the loosest kind, which on entering the digestive tract must be broken up into its more stable components, casein and glycerophosphate. To claim that Sanatogen possesses any properties not possessed by its essential constituents is a silly piece of pseudo-scientific claptrap.

Of the testimonials on Sanatogen we shall at this time have nothing to say; THE JOURNAL has in the past repeatedly shown the worthlessness of this kind of evidence.

We have nothing to retract, rather we would emphasize and, had we space, enlarge on what we have already published, for we believe that a large and unfortunate portion of the public, that can ill afford it, is paying a ruinously high

price for a substance having a very mediocre food value. That indigent consumptives, for instance, should be led by glittering falsehoods to squander on Sanatogen money that should go for "food tonics" of infinitely greater value, such as eggs, milk, vegetables and meats, is not only economic waste but inhuman cruelty.—Ed.]—(*From The Journal A. M. A., May 18, 1912.*)

The Sanatogen "Grand Prix"

A number of letters have been received recently expressing surprise that Sanatogen had been granted a "grand prix" at the Exhibition of Medical and Surgical Material held in London at the same time that the Seventeenth International Congress of Medicine was in session. The correspondents have asked what such an "honor" meant. The company which exploits Sanatogen in the United States has not been slow to apprise the American public of the award. It has gone further and has written the advertising managers of magazines—including those that had refused Sanatogen advertisements—directing their attention to the fact that Sanatogen was awarded a "grand prize" and opining that "this unusual distinction" should make plain "the desirability of the presence of Sanatogen in the advertising columns of your esteemed publication."

Those familiar with the methods of awarding prizes, medals and certificates to commercial firms and their products at expositions and exhibitions attach little weight to the "honors" thus conferred. It is a fact that most purchasers of large—and expensive—exhibit space at such exhibitions receive some kind of award which, it is tacitly understood, will be a useful advertising asset. Every one can call to mind many food products of mediocre quality that have flaunted on their labels the gold medals received at various expositions.

Nevertheless, it seemed worth while to find out just what the connection was between the commercial exhibition at which Sanatogen received the grand prize and the Seventeenth International Congress of Medicine. The following facts were developed: The commercial exhibition was entirely distinct and separate from the scientific exhibit of the Congress. It was managed and conducted by a British drug journal which had been giving annual "exhibitions" of its own for some years past, and this took the place of its regular exhibition. Immediately after the awards were made public the advertising pages of this drug journal were filled with full-page advertisements of the various products that received prizes. It may interest our readers to know that while the cottage-cheese-glycerophosphate product Sanatogen received a "grand prize" two other proprietary cottage-cheese-glycerophosphate products received "gold medals" at the same time. In the pharmaceutical department of the exhibit a widely—and fraud-

ulently—advertised “patent medicine” received a silver medal! From the facts given it should not be difficult to appraise at its right value the “honor” conferred on Sanatogen. The fact that the exploiters of this preparation are trying to make capital out of this “award” is significant.

Nervous Sufferers,

through the multiplicity of causes which deplete the body's vitality, constantly find themselves the victims of anæmia, depressed spirits, treacherous and failing memory. These, and the long train of distressing symptoms on which nervous and bodily weakness are prominent features make life a burden. SANATOGEN offers not merely a respite but a cure for the condition which produces these symptoms.

Similarly, to the millions of

Malaria Victims

whose blood is depleted by the ravages of the Malaria microbe, so that they suffer from Anæmia, progressing towards Cachexia, or are already afflicted with that terrible complaint. Sanatogen holds out the promise of cure. Its revivifying and energising power stimulates the blood-forming centres to such activity that the red blood corpuscles rapidly increase, the anæmia and the cachexia are soon cured and the patient's health is entirely restored.

Hundreds of doctors throughout India have testified to the efficacy of Sanatogen in such cases and thousands of grateful patients have borne testimony to the same effect. Here are two typical examples

<p>The Hon. Mr. Justice Robertson</p> <p>—Judge, Supreme Court, Lahore— "My experience as far as Sanatogen has been very beneficial. I took a lot more work during the most trying season of the year—June, July, August—in Lahore and in the Punjab plains, and found it a great strengthener."</p>	<p>Mr. Shirley Tremearc</p> <p>—Editor of "Capital," Calcutta— "I cannot speak too highly of Sanatogen, which I took for some time during a sharp attack of Fever. It restored me more speedily to full vigour than I was before and stronger than before the attack."</p>
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Sanatogen can be obtained from all chemists and druggists. Instructive pamphlet from The Sanatogen Comp. (of London), P.O. Box 226, Brompton, (Cable Address "Sanatogen," London, S.W.) 1 s. 6 d.

SANATOGEN

THE LIFE FOOD AND NERVE TONIC WITH LASTING EFFECTS

Nor is even the Asiatic neglected in the Sanatogen advertising campaign. Here is reproduced an advertisement appearing in an Asian sporting newspaper published in India. The original advertisement was 10 inches by 15 inches.

Among the members of the Award Jury whose names were given by this drug journal were three men of prominence in Great Britain, to whom we have written. A reply has been received from one, Dr. Stephen Paget, who says: "I was not

on the jury, nor do I know anything about the matter. . . . I had nothing whatever to do with the awarding of prizes."—(*From The Journal A. M. A., Oct. 11, 1913.*)

A Restatement of the Case

The case against Sanatogen has been pretty plainly given at different times in THE JOURNAL, but the sale of the stuff goes on—thanks to the power of advertising. One criticism that has been made of this patent medicine is the exorbitant price charged for it. This objection, although but an incidental one, is the one that apparently appeals to the layman more strongly than the much more serious criticism, fraud in exploitation. You arrest the attention of the average man when you appeal to his purse; he resents paying an exorbitant price for anything. This probably accounts for the fact that this particular criticism has apparently hurt the sale of Sanatogen to a greater degree than the more serious objections made to the preparation. This also accounts, doubtless, for the fact that the attempts to answer THE JOURNAL criticisms, by those who are selling Sanatogen, have been largely devoted to the one point—its outrageously high price.

The fundamental objection to Sanatogen is not its high price, but the attempt to ascribe to a mixture of casein and glycerophosphates powers not possessed by these ingredients—in other words, the misleading and fraudulent claims made for it. Even if it were sold at cost price, the stuff, as at present advertised, would still be a fraud. The nub of the whole matter is: The claims made for Sanatogen are unwarranted, misleading and fraudulent.

SOME FRAUDULENT CLAIMS

The constituents of Sanatogen are casein and sodium glycerophosphate. These two very ordinary substances possess, so the Sanatogen people would have us believe, peculiar properties when they are brought together in chemical combination. Sanatogen, they claim, is a chemical combination of these constituents. The claim may be a good "selling-point," but it cannot be, and is not, seriously taken by chemists. But even supposing, for the sake of argument, that sodium glycerophosphate and casein could be combined, there is not a scintilla of evidence to show that such a combination could survive the destructive influence of digestion and be absorbed. Whether Sanatogen is a chemical combination of casein and sodium glycerophosphate or a mere mechanical mixture of these two substances is really immaterial. In either case, it would be separated into its constituent parts by the digestive juices and would have the properties of sodium glycerophosphate and casein, and nothing more.

Remembering this, let us examine once more some of the claims made for this patent medicine:

"Sanatogen is a nerve and tissue food for which the brain, spinal cord and the nerves have a special predilection."

" . . . practically identical with the main ingredient of nerve and muscle cells. . . ."

"Sanatogen stands pre-eminent in its power to feed the nerve centers, to promote healthy digestion, to give strength and endurance to the entire system."

" . . . food for tired nerves. . . ."

" . . . a rational, scientific nerve-food."

To the physiologist, the term "nerve-food" is an absurdity. The processes of digestion reduce the albuminous substances (proteins, such as casein) of the food to simpler forms. This is true no matter what may be their source. Whether the proteins are derived from the gluten of wheat, the casein of milk or the albumin of egg, one will "feed the nerves" just as well as the other. And Sanatogen "feeds the nerves" no more than, in fact not as much as, do bread and meat and eggs. Of course, the casein in Sanatogen has food-value, but so has ordinary casein—cottage cheese, "pot cheese," or the German *Schmierkäse*, for instance—and it is both false and fraudulent to claim for the casein in Sanatogen any greater nutritive value than that possessed by the casein in ordinary milk. To pretend that there are wonderful properties in the protein of Sanatogen when just as good protein can be purchased (for much less money) from the milkman, is to perpetrate a fraud on the purchaser. Here are some more claims:

" . . . marvelous revitalizer of nerve health."

" . . . Sanatogen has positive reconstructive force in neurasthenia."

"If You need New Strength and Vitality You should at once get acquainted with Sanatogen."

Strangely like the "lost manhood" advertisements, this last. And this, also:

" . . . has brought new strength, new vitality and new relish of life to thousands upon thousands who suffered from starved nerves. . . ."

"Countless people . . . have regained fresh health and vigor through the vitalizing and invigorating effects of Sanatogen."

Of course Sanatogen is not sold as a "consumption cure." No such crude claims as these emanate from the skilled advertising agents employed by the Sanatogen people. If they did they could not get space in high-grade magazines! As a preventive of consumption, however, we find:

"Sanatogen . . . creates new tissue and nerve capital . . . This nerve capital will . . . save the individual from attacks of acute disease. Against tuberculosis it is an excellent investment."

Also, it is a pick-me-up! Thus:

"Sanatogen promises to pick you up when run down—it does so."

Most people are under the necessity of working for a living. If we are to believe the Sanatogen advertisements, it seems

remarkable that the human race has managed to jog along for so many centuries without this product, for we read:

"It is practically indispensable to all who are unable to take prolonged rest. . . ."

Naturally we do not expect to find the coarse, "free-to-you-my-sister" type of claims in Sanatogen advertisements. Nevertheless:

"Women . . . find in Sanatogen a genuine sustaining agent."

Finally, we would respectfully direct the attention of those gentlemen of the medical profession who have so far forgotten the dignity of their calling as to give fulsome puffs for this casein-glycerophosphate product to the following claims and ask whether they really subscribe to them:



Sanatogen is advertised heavily in the British Isles. Here are some greatly reduced advertisements appearing in British magazines. The three largest advertisements shown here measured in the original 10 inches by 14 inches, each.

" . . . it revivifies the nerves, promoting sleep and helping digestion. . . ."

" . . . it builds up the blood, creating new strength and the power to do and accomplish."

" . . . Sanatogen is a *natural*, healthful food and tonic. . . ."

" . . . a health and strength giving food and tonic composed of those very elements which make cell and tissue grow."

"Blood and tissues alike hunger for Sanatogen as their concentrated nourishment."

"Sanatogen is the one food tonic that commands your absolute confidence."

How many intelligent physicians really believe that there is the slightest basis of fact for the claims we have quoted?

Yet it is by means of these claims that Sanatogen is being foisted on a public that looks to the medical profession for enlightenment and truth. And every quotation in this article is taken from advertising matter issued during the current year, 1913!

In closing, let us reiterate: The objections to Sanatogen are primarily the objection to any fraud. It is being sold under unscientific, misleading and fraudulent claims; moreover, although this is of less importance, the purchaser pays an extraordinary price for a most ordinary product. We believe the time will come when even the artificial stimulus of vast advertising appropriations will be insufficient to overcome the inertia inherent in a product of small merit. When that time comes, Sanatogen will die a natural death. In the meantime, its exploiters are reaping a golden harvest, of which no small part is being divided among publishers, medical and otherwise. And the credulous among the sick and suffering pay the bills! —(*From The Journal A. M. A., Dec. 6, 1913.*)

SANATOGEN: A SCIENTIFIC INVESTIGATION OF ITS ALLEGED ACTION ON THE RECUPERATING POWERS OF THE BLOOD

Sanatogen, the new elixir of life compounded of casein and glycerophosphates, has been noticed in THE JOURNAL from time to time. It will be remembered that, while it has been claimed that "Sanatogen contains over 700 per cent. more tissue-building, life sustaining nourishment than wheat flour," the facts are that one dollar's worth of wheat flour contains as much energy as one hundred and ninety-seven dollars' worth of Sanatogen! To this the manufacturers rejoin, in effect, that the casein and glycerophosphates in Sanatogen, being in chemical combination, possess a mystical and esoteric virtue not measurable in terms of the food-value of the several ingredients. The fact is, of course, that even assuming, for the sake of argument, that the ingredients of Sanatogen are in chemical combination, the compound cannot have any effect on the organism different from that of the uncombined casein and glycerophosphate, for the union must be of the loosest kind and must be broken up as soon as the preparation enters the digestive tract.

Testimonials are published in the Sanatogen "literature" which show results in a variety of conditions; cerebral concussion, alcoholic gastritis, anemia, etc. The patient is given a chance to recover with rest, proper diet—and Sanatogen. And the recovery which ensues is attributed to Sanatogen!

Not all of these testimonials are as naive as that of the Right Reverend the Bishop of Bath and Wells, who contributes the following bit of second-hand testimony:

"You may like to hear that I am informed by my private secretary that a member of his family has derived *very remarkable benefit* from using Sanatogen."

PAY YOUR MONEY AND TAKE YOUR CHOICE

"Sanatogen"

(MADE IN GERMANY)

CASEIN - - - 95%
GLYCEROPHOSPHATES - 5%

"SANATOGEN" is just as good as "B B X" or Cottage Cheese—and no better.

\$1.00 WORTH OF
"SANATOGEN"



1

"B B X"

(MADE IN AMERICA)

CASEIN - - - 95%
GLYCEROPHOSPHATES - 5%

"B B X" is just as good as "Sanatogen" or Cottage Cheese—and no better.

\$1.00 WORTH OF
"B B X"



2

Casein

(MADE IN AMERICA)

CASEIN - - - 100%

CASEIN is just as good as "Sanatogen" or "B B X"—if not better.

\$1.00 WORTH OF
CASEIN



3

Above is a photographic reproduction of one of the exhibits made at Atlantic City at the last annual meeting of the American Medical Association.

Jar 1 contains $3\frac{1}{8}$ ounces of the casein-glycerophosphate combination made abroad and sold under the name "Sanatogen;" it costs One Dollar.

Jar 2 contains 2 pounds $13\frac{1}{2}$ ounces of a casein-glycerophosphate combination made by an American casein company; it costs One Dollar. For the same money, then, one gets nearly 15 times as much of this casein-glycerophosphate combination made in America as when the casein-glycerophosphate combination is sold under the name "Sanatogen" and manufactured abroad.

Jar 3 contains one dollar's worth of pure casein. The casein entirely fills the jar, although the weight of the material is the same as the weight of the casein-glycerophosphate combination in Jar 2. Pure casein is more bulky than the casein-glycerophosphate combination.

Again we would emphasize that the chief objection to Sanatogen is not its high price, but the fraudulent claims under which it is sold.

The following selections perhaps fairly represent the value to science of the clinical evidence offered. Describing a case of vomiting from cerebral concussion:

"I ordered an ice-bag to the head, a mustard leaf to the epigastrium, absolute recumbency in bed and small feeds of Sanatogen with water. This diet was continued for three days, but the vomiting ceased the second day."

And here a case of "hungry tired nerves":

"I have just had a recovery in a remarkable case which scores a victory for Sanatogen. The patient, a man 63, had been treated for some years past for heart trouble. When he came to me, however, I diagnosed his trouble as 'hungry tired nerves.' I put him on Sanatogen and eupeptics. In a month he was much improved."

In a serious case of the "American disease":

"I tried Sanatogen on a woman suffering from extreme neurasthenia and debility. For the past six weeks I have had, and still have, her under rest-cure treatment, during which time I have given her Sanatogen. I have been very much elated with the treatment."

Anemia in a girl of 23 working in a bookbindery:

"I promptly decided to use Sanatogen. In addition, I was able to secure the girl's absence from work so that she had the advantage of outdoor life and sunshine. Improvement was rapid. . . . Both *a priori* and from results obtained it seems almost justifiable to speak of Sanatogen as a specific in ordinary uncomplicated anemia."

Note that in all these cases two or more remedial factors were introduced, yet any favorable result is promptly ascribed to only one factor, Sanatogen! And the factor of spontaneous improvement irrespective of all remedial measures is also ignored.

A "SCIENTIFIC" TESTIMONIAL

Every physician knows that the kind of evidence just quoted has the same scientific value as that of the average "patent medicine" testimonial—none whatever. The exploiters of Sanatogen put forward some testimony, however, that purports to have a certain authority. This is a statement to the effect that "Sanatogen acts as a strong stimulus as far as the recuperative powers of the blood are concerned."

This claim is based on biologic experiments carried out by two physicians, Drs. G. Mann and J. G. Gage, the record of whose work was published in the *Lancet*, Oct. 19, 1912. The article of Mann and Gage was gone over with some care and the experiments there described did not seem to justify the conclusions reached by the authors. As it had been published in the *Lancet*, a medical journal of standing, whose publishers apparently thought it of sufficient importance to warrant the expense of a colored plate insert, it seemed worth while to have the work of Mann and Gage reviewed and its conclusions checked by parallel experiments. A. J. Carlson, professor of physiology at the University of Chicago, was asked to do this work and kindly undertook it. His report follows:

Report of Professor Carlson

I am asked to review the work done by Drs. G. Mann and J. G. Gage, from which they draw the following conclusions:

"Sanatogen [sodium caseinogenate glycerophosphates] further stimulates blood cells to undergo nuclear division, which during the early period is mostly amitotic. . . . Therefore, it is evident that Sanatogen acts as a strong stimulus as far as the recuperative powers of the blood are concerned."

Three series of experiments were made and reported by Drs. Mann and Gage, comparing the histology of the blood in starvation and during the height of digestion. The experiments of the first series were made on six students, the starvation period being thirty-six hours, ordinary food being taken after the thirty-six hours' fast, so far as can be gathered from Dr. Mann's report. It was found that during the height of digestion the nuclei of the lymphocytes and leukocytes stain more deeply, and that there is a slight decrease in the cytoplasm and consequent diminution in the size and number of the granules of the neutrophil and the eosinophil cells, in comparison with the blood during fasting.

The experiments of the second series were made on 100 frogs that had starved for months, blood-films being taken at varying periods after feeding 1 gm. Sanatogen. The changes noted in the white blood-cells of the frogs were practically identical with those described in the case of the six students. Increased cell division is stated to occur. The nuclei of the erythrocytes stain more deeply and the cells are increased in size, and exhibit increased cell division twenty-four hours after the feeding.

The third series consisted of one experiment on Dr. Mann himself. He fasted twenty hours and then took 15 gm. of Sanatogen in a cup of water. Practically the only change noted in the blood after the feeding was a deeper staining of the nuclei of the white cells. To quote:

"The changes in the granules of the polymorphonuclear leukocytes and in the eosinophils were much less marked than in the specimens supplied by the students, and the diminution in the size of the white cells was so insignificant as to be hardly noticeable."

Assuming that the blood-changes reported are correct, is the conclusion warranted that Sanatogen is a powerful recuperative stimulant to the blood?

In the first place, it remains to be proved, for there is as yet positively no evidence, that the deeper staining of the nuclei during digestion and absorption of a protein meal represents "recuperative power of the blood" or processes of "feeding" on the part of the white cells. The actual significance of these changes requires further investigation. The increased division of the blood-cells described by Dr. Mann in the frogs was not observed by him in man. This phenomenon in the frogs is, in all probability, associated with the extraordinary length of the starvation period (months) and the well-known seasonal variations in the physiology of this species.

In the second place, waiving for the moment the question of the significance of the blood-changes observed, the evidence, so far as it goes, points to the conclusion that the greater affinity of the nuclei of the white cells for the stain is brought about by the feeding of any protein food. The

experiments do not demonstrate any different or more marked effect from Sanatogen than from other protein foods.

The test on the six students with ordinary food can be considered as a control on the single Sanatogen test on Dr. Mann himself. The blood-changes in the students were more marked than in Dr. Mann.

Although Mann and Gage say that six frogs were used as controls, they do not say how the controls were treated, or draw any comparisons between the controls and the frogs fed with Sanatogen. So far as the report goes, therefore, the only basis for comparison is afforded by the work of one of Dr. Mann's pupils, H. G. Butterfield. This worker, as quoted by Mann, found that on feeding newts after two weeks' starvation with a worm the size of a wooden match, the nuclei of all tissues (excepting nerve cells) take a much deeper stain than in the control animals. To pronounce Sanatogen, on the basis of the facts reported, a "powerful stimulus" to blood-formation is a piece of special pleading, if not of downright disingenuousness. Considered on its own merits, the work would not have appeared to me worthy of being repeated for the purpose of checking up such obviously unwarranted conclusions. In order to comply with the request made of me, however, I have repeated Dr. Mann's experiments:

EXPERIMENTS BY PROFESSOR CARLSON

I. TESTS ON MAN (A. J. C.)

1. Thirty-six hours' fast followed by a meal of 25 gm. Sanatogen in water.
2. Thirty-six hours' fast followed by a meal of 25 gm. casein in water.
3. Thirty-six hours' fast followed by a meal of 200 c.c. of milk.

II. TESTS ON RATS

1. Four animals, seventy-two hours' fast followed by a meal of Sanatogen in water.
2. Two animals, seventy-two hours' fast followed by a meal of crackers and milk.
3. Two animals, seventy-two hours' fast followed by a meal of casein in water.
4. Two animals, seventy-two hours' fast followed by a meal of casein and sodium glycerophosphate in water.

Blood-films were taken at intervals during the fasting period and for twenty-four hours after feeding was resumed. The technic of fixing and staining given by Drs. Mann and Gage was followed in every detail in order to make my results comparable with their findings.

RESULTS

My results may be summarized as follows:

1. The only change in the blood-cells that could be detected with certainty in rats or in man, after feeding with Sanatogen or after feeding with other foods, was a deeper staining of the nuclei of the white cells in the films taken after feeding as compared with the films taken during fasting. This difference is generally distinct and unmistakable, although individual cells can always be found in the fasting and the feeding preparations that show no difference in affinity for the dyes. To this extent my results confirm those of Mann

and Gage. I was not able, however, to make out any constant difference in the size of the cells, quantity of cytoplasm, or size and number of cytoplasmic granules similar to those reported by Mann and Gage.

2. There was no difference in the affinity for stains on the part of the white blood-cells in films taken after feeding Sanatogen and those taken after feeding milk, crackers, casein, and casein and sodium glycerophosphate. This is true for the tests both on man and on rats.

3. The above-mentioned difference in the staining of the cell nuclei was somewhat more marked in the tests on rats than in the tests on man, probably owing to the longer starvation period in the case of rats.

It has already been stated that the significance of this increased affinity for dyes in the nuclei of the white blood-cells must be determined by further investigation. It may be related to the change in the titration alkalinity of the blood rather than an evidence of "recuperative power" on the part of the blood, as it is well known that starvation induces acidosis, while during digestion the alkalinity of the blood is distinctly increased. If we assume that increased staining reaction during digestion indicates "increased recuperative power of the blood" it follows that such common and inexpensive foods as milk, crackers and casein are just as "powerful stimuli" to this recuperation as Sanatogen.

The extensive researches of Mendel and Osborne have shown that casein is in a certain sense a perfect food in that it is, in normal animals, capable of promoting growth and maintaining nitrogenous equilibrium, at least for long periods of time. The burden of proof, however, rests with the promoters of Sanatogen to show that the casein in Sanatogen is superior to the natural product of the cow.

Conclusion

From the findings in Professor Carlson's report on this disguised puff of a mendaciously exploited proprietary, about all that remains to be said is that it is humiliating to find such pseudo-science, not only built up by members of a profession trained in science, but also given currency and authority by a medical journal of high standing.—(*From the Journal A. M. A., Sept. 26, 1914.*)

As to Sanatogen

For several years it has been known by physiologists that all proteins taken into the stomach are disintegrated into their fundamental components, the amino-acids, and that they are not absorbed at all as proteins, except in most minute amounts under exceptional conditions. Therefore, no matter what protein is taken as food, the material obtained from this protein by the body is a group of amino-acids, always pretty much the same except in relative proportions, whatever the food. A few proteins lack certain essential amino-

acids, but any ordinary diet supplies enough, and more than enough, of each and every amino-acid. Furthermore, since the proteins are completely disintegrated before absorption, it follows that any adventitious chemical substance that is bound to a protein taken in the food does not enter the blood and circulate in the body in the same protein compound.

All the facts stated above are elementary, and should be known by any and every physician who pretends to keep even approximately abreast of the science of medicine. If there are any who do not know these fundamentals, and from certain unwelcome evidence we fear there are, they must be resigned to being told just where they stand. Certainly they have no good excuse for their lack of information, for the physiologists and biochemists have informed them of modern advances in innumerable ways. For ten years and more these facts have been discussed and demonstrated in societies and in medical publications. And yet—there is Sanatogen, prescribed by Geheimrats, Hofrats and also by doctors, and testimonialled as abundantly by men with medical degrees as Duffy's whisky is by centenarians. One can merely throw up his hands. If, as the exploiters of Sanatogen declare, the product "has been endorsed by von Noorden, Ewald, Duhrssen, Eulenburg, Neiser, Binswanger, Leyden, Krafft-Ebing, Tillmanns, Tunncliffe and thousands of other earnest, reputable physicians," we can only say that their earnestness has not been in the direction of grasping fundamental advances in medical sciences, however great the reputation they have gained may be.

The article by John Phillips Street that follows is another report of exact experimental observation which shows, as was obvious beforehand, that Sanatogen has the properties of its constituents, namely, casein and glycerophosphates. Nothing more nor nothing less could be the case. Bottling dried cottage cheese plus some glycerophosphates, and raising the price many times, may increase its psychic effect, but it will not alter its physiologic action. These facts we have presented often enough, but the amount of paid advertising the proprietors of this compound find it profitable to carry in the United States makes us feel obliged to give them this bit free. That laymen may be persuaded to purchase Sanatogen in the belief that it possesses some occult powers not to be found in its constituents is not surprising. By blatant and persistent advertising, the public can be fooled into buying any product—however valueless—for which medicinal claims are made. But that physicians should prove equally gullible is a sorry commentary on the scientific attainments of the followers of a learned profession.—(*Modified from Editorial in The Journal A. M. A.*, Nov. 21, 1914.)

THE FEEDING VALUE OF SANATOGEN COMPARED WITH COMMERCIAL CASEIN WITH RESPECT TO MAINTENANCE AND GROWTH

John Phillips Street, M.S.

Chemist Connecticut Agricultural Experiment Station
NEW HAVEN, CONN.

The proprietary preparation "Sanatogen" is claimed to consist of about 95 per cent. casein and 5 per cent. sodium glycerophosphate. The analysis of C. B. Morison¹ is as follows:

1. Morison, C. B.: Rept. Conn. Agri. Exper. Station, 1912, p. 197.

Water	9.97
Total nitrogen	12.81
Nitrogen, ppt. by acetic acid.....	12.54
Casein	80.01
Ether extract	0.11
Ash	5.59
Sulphur, total	0.73
Sulphur in casein.....	0.64
Phosphorus, total	1.49
Phosphorus in casein.....	0.69
Phosphorus in inorganic form.....	0.11

In connection with the above analysis it was demonstrated that sodium glycerophosphate was present. Sanatogen, therefore, consists essentially, on the water-free basis, of about 90 per cent. casein and 5 per cent. sodium glycerophosphate, with a small amount of an unidentified nitrogenous compound containing both sulphur and phosphorus, and a small amount of phosphorus in organic combination. The manufacturers claim that the two essential ingredients exist in Sanatogen as a definite chemical compound. Certain authorities, on the other hand, have insisted that the casein and glycerophosphate have not been chemically combined and that Sanatogen is simply a mechanical mixture of the two. Which claim is correct we will not consider here, for indeed it is of little importance, for whether or not chemically combined the action of the digestive fluids of the body would speedily break down the alleged compound into its constituents, and the body would have casein and the glycerophosphate offered for its use, just the same as though they had been offered as a mere mechanical mixture.

It being apparent that Sanatogen consists almost entirely of casein and sodium glycerophosphate, the former well-known ingredient making up nine-tenths of its weight, the question naturally arises how a mixture of these two common substances can acquire, simply by that admixture, unusually valuable properties not possessed by the two components. Leading physiologists quite generally agree that phosphorus in the form of glycerophosphates influences metabolism very

little. Furthermore, it is obvious that the food value of the small amount of glycerin present must be slight. It is apparent therefore, that whatever nutriment or energy Sanatogen supplies must be dependent on its main constituent casein.

Sanatogen is commonly sold at retail in 100 gm. or 200 gm. packages for \$1 and \$1.90, respectively. It is possible that in larger quantities these prices might be shaded somewhat, but the fact remains that the ordinary retail purchaser of Sanatogen pays for it about 1 cent per gram, or about \$4.50 per pound. If the value of Sanatogen depends on its casein,

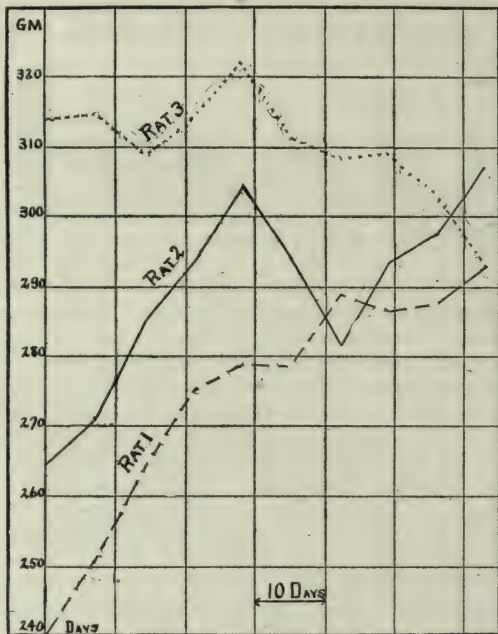


Chart 1.—Growth curves of Rats 1, 2 and 3, on Ration 1: Casein.

one might ask, in all fairness, why should the patient pay \$4.50 per pound for Sanatogen when he can secure ordinary commercial casein for 8.5 to 10 cents per pound! (The Casein Mfg. Co. of New York quoted to me their No. 60 casein at 10 cents per pound in 5-pound lots, 8.5 cents per pound f. o. b. Bainbridge, N. Y., in 100-pound lots, and 8.5 cents per pound, freight paid, in 500-pound lots.) I have purchased Sanatogen from a wholesale druggist at the rate of \$2.75 for 400 gm., or \$3.12 per pound, so that under the most

favorable conditions the cost of Sanatogen is more than thirty times as great as the commercial casein in question.

Is the consumer justified in paying this exceedingly high price for purified casein? The following feeding experiments were carried out to answer this query.

FEEDING EXPERIMENTS

White rats were chosen for the experimental animals because of their adaptability for tests of this kind, as shown by the extended successful experience of Osborne and Mendel, and also because, by using white rats, I could take advantage of the equipment and the experience of my colleagues, Dr. T. B. Osborne, Prof. L. B. Mendel and Miss Edna L. Ferry.

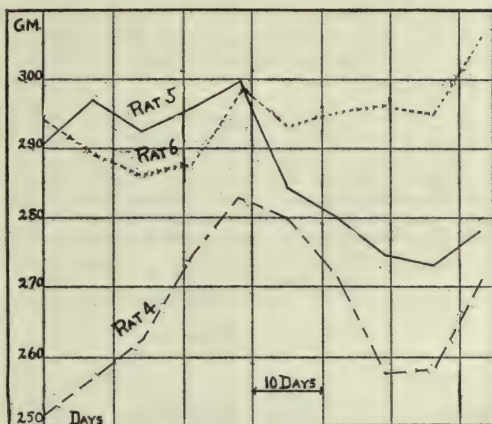


Chart 2.—Growth curves of Rats 4, 5 and 6, on Ration 2: Sanatogen.

The value of Sanatogen as compared with commercial casein was studied from two points of view:

1. Its value in maintaining the weight of mature rats.
2. Its value in promoting the growth of young rats.

I. THE MAINTENANCE OF WEIGHT OF MATURE RATS

The Sanatogen used contained 12.88 per cent. of nitrogen, and the casein, 12.82 per cent., so that from the point of view of nitrogen content they were practically equivalent, gram for gram.

Six healthy male animals were selected, Rats 1, 2 and 3 being fed the casein ration and Rats 4, 5 and 6 the Sanatogen ration. At the beginning of the experiment the casein rats were 257, 360 and 376 days old; the Sanatogen rats, 249, 321 and 275 days old, respectively. These weight conditions, if anything, slightly favored the Sanatogen rats, as they were slightly less mature, and a greater growth might naturally be expected.

The rations fed had the following percentage composition:

Ration 1		Ration 2	
Casein	20	Sanatogen	20
Protein-free milk*.....	28	Protein-free milk*.....	28
Lard	8	Lard	14
Unsalted butter.....	18	Unsalted butter.....	18
Corn starch.....	26	Corn starch.....	20

* Osborne and Mendel: Feeding Experiments with Isolated Food Substances, Carnegie Inst. of Washington, Publ. 156, 1911, Part 2, p. 80.

The rats were weighed twice a week for nine weeks, a record of the food consumed also being kept. Table 1 shows the weekly weights of the casein rats, the weekly gain or loss, and the weekly consumption of food. Table 2 gives similar data for the Sanatogen rats.

Certainly the above data show no superiority of Sanatogen over commercial casein. In fact the results might be taken to suggest a slight advantage for the cheaper article, if one were warranted in drawing fine distinctions from a limited number of animals.

To conclude, *a comparative feeding of six male white rats during nine weeks showed no nutritive superiority of Sanatogen, costing \$3.12 per pound, over commercial casein costing 10 cents per pound.*

II. THE PROMOTION OF GROWTH IN YOUNG RATS

In the second series of experiments ten male rats were used with four different rations. In these, casein and Sanatogen were compared, using both Osborne and Mendel's "protein-free milk" and their "artificial protein-free milk IV."² Butter fat was also substituted for the unsalted butter used in Rations 1 and 2.

The percentage composition of the rations fed was as follows:

Ration 3		Ration 5	
Casein	20	Casein	20
Protein-free milk.....	28	Artificial p.-f. milk IV.....	29
Lard	8	Lard	8
Butter-fat	18	Butter-fat	18
Corn starch.....	26	Corn starch.....	25

Ration 4		Ration 6	
Sanatogen	20	Sanatogen	20
Protein-free milk.....	28	Artificial p.-f. milk IV.....	29
Lard	14	Lard	14
Butter-fat	18	Butter-fat	18
Corn starch.....	20	Corn starch.....	19

Two male rats were used with each of Rations 3 and 4, and three with each of Rations 5 and 6. They were all healthy young rats ranging from 57 to 71 days old. As in the first series of experiments the rats were weighed twice a week and a record kept of the food consumed. Rations 3 and 4 were fed for seventy-seven days, Rations 5 and 6 for thirty-five days.

Table 3 shows the weekly weights and gains or losses of the rats fed Rations 3 and 4.

Rat 8 suffered more or less from diarrhea during a considerable part of the experiment, covering a period from March 16 to April 9, and from April 13 to May 11. The food intake correspondingly decreased during those periods.

The difference in the gains in weight shown by the four rats are not great and certainly do not warrant the conclusion that Sanatogen possesses any marked superiority over the commercial casein in promoting growth. The slightly

TABLE 1.—WEIGHTS OF CASEIN RATS, ON RATION NO. 1, OVER A PERIOD OF NINE WEEKS *

Date	Rat 1			Rat 2			Rat 3		
	Weight, gm.	Gain or Loss, gm.	Food Eaten, gm.	Weight, gm.	Gain or Loss, gm.	Food Eaten, gm.	Weight, gm.	Gain or Loss, gm.	Food Eaten, gm.
1/2	240.0	.....	.....	264.6	.....	.....	314.1	.....	.....
1/9	250.8	+10.8	73.7	270.9	+6.3	85.2	314.6	+0.5	95.7
1/16	264.3	+13.5	89.3	284.9	+14.0	99.2	308.7	+5.9	117.9
1/23	274.9	+10.6	90.7	293.5	+8.6	107.7	313.8	+5.1	116.5
1/30	278.6	+3.7	80.2	304.5	+11.0	100.5	322.2	+8.4	116.7
2/6	278.3	-0.3	82.4	294.2	-10.3	97.0	311.2	-11.0	119.9
2/13	288.7	+10.4	85.5	281.5	-12.7	94.2	308.2	-3.0	125.6
2/20	286.4	-2.3	86.1	293.3	+11.8	86.8	309.0	+0.8	126.8
2/27	287.6	+1.2	81.1	297.6	+4.3	100.7	303.4	-5.6	129.3
3/6	292.6	+5.0	80.1	307.4	+9.8	103.1	292.4	-11.0	101.0
Total	.....	+52.6	759.1	.....	+42.8	874.4	.....	-21.7	1,049.4
Average per week	.....	+5.8	84.3	.....	+4.8	97.2	.....	-2.4	116.6

* The growth curves of Rats 1, 2 and 3 are given in Chart 1.

TABLE 2.—WEIGHTS OF SANATOGEN RATS, RATION NO. 2, OVER A PERIOD OF NINE WEEKS *

Date	Rat 4			Rat 5			Rat 6		
	Weight, gm.	Gain or Loss, gm.	Food Eaten, gm.	Weight, gm.	Gain or Loss, gm.	Food Eaten, gm.	Weight, gm.	Gain or Loss, gm.	Food Eaten, gm.
1/2	251.8	.....	.....	290.6	.....	.....	294.0	.....	.....
1/9	257.1	+ 5.3	73.4	297.2	+ 6.6	86.3	289.1	- 4.9	58.4
1/16	262.4	+ 5.3	89.8	292.4	- 4.8	88.9	286.1	- 3.0	76.8
1/23	274.4	+ 12.0	97.3	295.7	+ 3.3	92.8	287.6	+ 1.5	85.8
1/30	282.7	+ 8.3	95.5	299.5	+ 3.8	92.3	298.6	+ 11.0	90.9
2/6	279.8	- 2.9	97.7	284.2	- 15.3	87.7	292.9	- 5.7	89.8
2/13	271.2	- 8.6	96.1	280.0	- 4.2	94.9	295.1	+ 2.2	99.7
2/20	257.5	- 13.7	91.6	274.9	- 5.1	96.4	296.0	+ 0.9	93.9
2/27	258.0	+ 0.5	93.5	273.0	- 1.9	103.3	295.0	- 1.0	95.1
3/6	270.9	+ 12.9	94.8	278.1	+ 5.1	94.9	306.3	+ 11.3	89.4
Total	.....	+ 19.1	829.7	.....	- 12.5	837.5	.....	+ 12.3	779.8
Average per week	.....	+ 2.7	92.2	.....	- 1.4	93.1	.....	+ 1.4	86.6

* The growth curves of Rats 4, 5 and 6 are given in Chart 2.

TABLE 3.—COMPARATIVE WEIGHTS OF RATS FED RATIONS 3 AND 4

Date	Weights of Rats, Ration 3, Casein, Protein-Free Milk			Weights of Rats, Ration 4, Sanatogen, Protein-Free Milk		
	Rat 7		Rat 8	Rat 9		Rat 10
	Weight, gm.	Gain or Loss, gm.		Weight, gm.	Gain or Loss, gm.	
3/9	142.2	.....	108.0	.....	127.8	.....
3/16	152.8	+10.6	120.3	+12.3	129.1	+9.0
3/23	165.7	+12.9	135.1	+14.8	144.6	+18.5
3/30	178.6	+12.9	140.4	+5.3	160.0	+15.3
4/6	187.8	+9.2	148.8	+8.4	173.1	+6.0
4/13	198.5	+10.7	157.6	+8.8	185.6	+22.3
4/20	204.6	+6.1	164.6	+7.0	194.8	+13.3
4/27	210.3	+5.7	167.2	+2.6	204.6	+11.6
5/4	223.0	+12.7	179.6	+12.4	222.9	+13.7
5/11	223.6	+0.6	191.6	+12.0	236.4	+6.1
5/18	231.5	+7.9	203.6	+12.0	240.0	+7.8
5/25	237.4	+5.9	213.9	+10.3	247.3	+8.1
Total	.....	+95.2	.....	+105.9	.....	+119.7

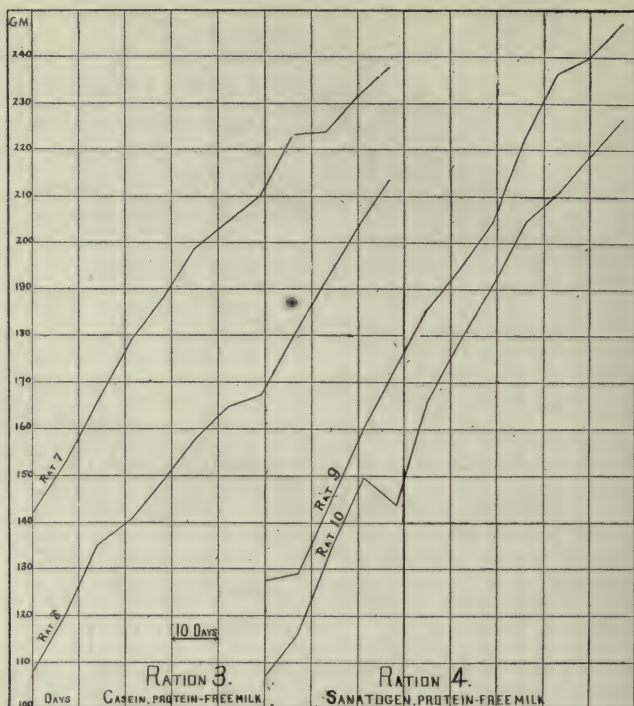


Chart 3.—Growth curves of Rats 7, 8, 9 and 10 on Rations 3, Casein, protein-free milk, and 4, Sanatogen, protein-free milk.

increased gains shown by Rats 9 and 10 are entirely incommensurate with the cost of the Sanatogen. All of the rats showed a vigorous growth and exceeded the average weight expected for rats of their respective ages, based on the long series of observations of Osborne and Mendel, as shown in Table 4.

TABLE 4.—WEIGHT OF RATS 7 TO 10 COMPARED WITH AVERAGE WEIGHT OF RAT OF SAME AGE

Rat	Age in Days	Final Weight, gm.	Average Weight for Rat of Same Age, gm.
7	148	237	204
8	138	214	201
9	145	247	204
10	134	227	197

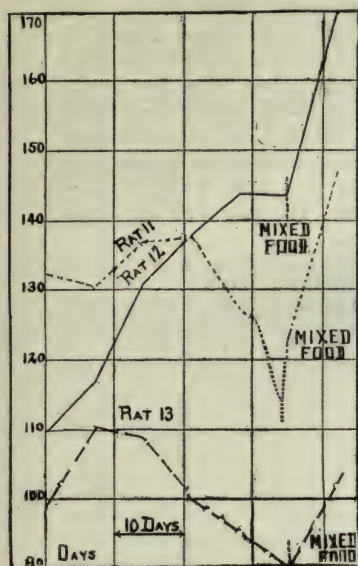


Chart 4.—Growth curves of Rats 11, 12 and 13, on Ration 5. Casein, artificial protein-free milk.

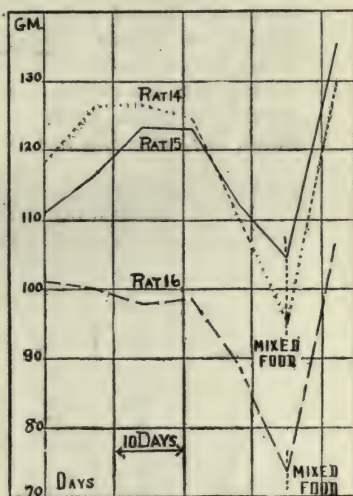


Chart 5.—Growth curves of Rats 14, 15 and 16, on Ration 6: Sanatogen, artificial protein-free milk.

TABLE 5.—WEIGHTS OF RATS FED RATION 5, CASEIN, ARTIFICIAL PROTEIN-FREE MILK *

Date	Rat 11		Rat 12		Rat 13	
	Weight, gm.	Gain or Loss, gm.	Weight, gm.	Gain or Loss, gm.	Weight, gm.	Gain or Loss, gm.
3/9	132.1	.....	110.0	.....	99.0	.....
3/16	130.4	— 1.7	116.8	+ 6.8	110.3	+11.3
3/23	136.8	+ 6.4	130.8	+14.0	108.6	— 1.7
3/30	137.1	+ 0.3	138.0	+ 7.2	100.2	— 8.4
4/6	127.1	—10.0	143.9	+ 5.9	95.5	— 4.7
4/13	112.4	—14.7	143.6	— 0.3	90.0	— 5.5
Total	.....	—19.7	.....	+33.6	.....	— 9.0
4/20	146.7	+33.7	170.7	+27.1	104.0	+14.0

* Date 4/20 covers use of mixed food.

Rat 13 suffered more or less from diarrhea throughout the whole experiment, and Rat 16 suffered similarly during the first two weeks.

The results secured by Rations 5 and 6 compared with Rations 3 and 4, the only difference being that natural protein-free milk was used in the latter and artificial protein-free

milk in the former, are most striking. Such results were anticipated from the experience of Osborne and Mendel in feeding similar materials. All of my rats, except Rat 13, a casein rat, showed a decided loss in weight after five weeks' feeding on rations containing artificial protein-free milk. These losses amounted to 19.7, 9.0, 23.1, 6.7 and 27.6 gm., whereas rats fed on the same rations, except for the form of protein-free milk, gained, during the same period of five weeks, 56.3, 49.6, 57.8 and 59.1 gm. The fact that one casein

TABLE 6.—WEIGHTS OF RATS FED RATION 6.—SANATOGEN, ARTIFICIAL PROTEIN-FREE MILK *

Date	Rat 14		Rat 15		Rat 16	
	Weight, gm.	Gain or Loss, gm.	Weight, gm.	Gain or Loss, gm.	Weight, gm.	Gain or Loss, gm.
3/9	118.4	.....	111.3	.....	101.3	.....
3/16	126.2	+ 7.8	116.2	+ 4.9	100.0	- 1.3
3/23	126.6	+ 0.4	123.4	+ 7.2	98.0	- 2.0
3/30	124.7	- 1.9	123.3	- 0.1	98.7	+ 0.7
4/6	110.2	-14.5	112.3	-11.0	88.7	-10.0
4/13	95.3	-14.9	104.6	- 7.7	73.7	-15.0
Total	.....	-23.1	.....	- 6.7	.....	-27.6
4/20	130.3	+35.0	135.3	+30.7	106.4	+32.7

* Date 4/20 covers use of mixed food.

rat fed on the artificial protein-free milk showed a substantial gain is without significance, as such exceptions to the general rule occur occasionally, and, furthermore, this rat also during the last week of the experiment likewise lost weight. The extent of these losses compared with what the average normal male rat weighs at a corresponding age is shown in Table 7.

TABLE 7.—WEIGHT OF RATS 11 TO 16 COMPARED WITH AVERAGE WEIGHT OF RAT OF SAME AGE

Rat	Age, Days	Final Weight, gm.	Average Weight of Rat of Same Age, gm.
11	106	112	167
12	106	144	167
13	99	90	162
14	106	95	167
15	92	105	153
16	96	74	158

That these losses in weight were not due to any inherent weakness in the rats is shown by the fact that by feeding Rats 11 to 16 for one week after the termination of the experiment with Osborne and Mendel's "mixed food" (a mixture of dog bread, sunflower seeds, vegetables and meat) very large gains were secured in every instance, ranging from 14 to 35 gm.

The growth curves for Rats 7 to 16 are shown in Charts 3, 4 and 5.

To conclude, A COMPARATIVE FEEDING OF FOUR MALE WHITE RATS DURING ELEVEN WEEKS, SHOWED, IF ANYTHING, A SLIGHTLY GREATER, BUT INSIGNIFICANT, INCREASE IN WEIGHT FOR SANATOGEN OVER COMMERCIAL CASEIN. IN A RATION IN WHICH ARTIFICIAL HAD BEEN SUBSTITUTED FOR NATURAL PROTEIN-FREE MILK, SANATOGEN SHOWED NO ADVANTAGE OVER COMMERCIAL CASEIN IN CHECKING THE FAILURE IN WEIGHT OF THE RATS.—(From *The Journal A. M. A.*, Nov. 21, 1914.)

POEHL'S SPERMIN IN ARTERIOSCLEROSIS

A physician addressed the following inquiry to THE JOURNAL:

"In a recent number of the *Gazette méd. belge*, I read a detailed report of five cases of arteriosclerosis in which the patients were all markedly improved and some of them apparently cured by a course of 'Sperminum Poehl,' an advertised remedy which I have always distrusted and never prescribed. I am now suffering myself from a somewhat advanced case of arteriosclerosis and would like to try this remedy if the Council has learned anything in favor of it and if there is no reason to fear bad effects from it."

X. Y. Z.

THE JOURNAL replied:

Apparently the exploitation of Poehl's spermin passed several years ago from the domain of experimental medicine to that of nostrums advertised to the laity. So far as we know, it has received no recent discussion from reliable clinicians or experimenters. In some medical journals, as also in lay journals, it is true, one still reads that Poehl's spermin is successfully applied in "neurasthenia, senile marasmus, anemia, rachitis, gout, chronic rheumatism, syphilis, hysteria, tuberculosis, typhus, diseases of the heart, nephritis, tabes dorsalis, paralysis, neurasthenic impotence, overwork, acute diseases, and for convalescents." Few quack advertisements would differ much from this puff of Poehl's spermin. So far as we know, there is no reason to fear injurious results from the use of the remedy; neither might any good be expected from its use in arteriosclerosis.—(From *The Journal A. M. A.*, April 15, 1911.)

SYRUP OF COCILLANA COMPOUND

A physician in a small town in Nebraska writes: "In looking over a prescription file not long ago I found a prescription which I copied and am sending to you. It is a good example of shotgun prescribing. I do not give the name of the prescriber, and you will please not mention from whence this comes. The doctor who wrote this has had about ten years' experience."

Here is the prescription given exactly as transmitted by out correspondent:

Sp. sticta	Gtt xv
Sp. ipecac	Gtt x
Sp. bryonia	Gtt x
Sp. macrotys	ʒi
Bromoform Bronchial Anodyne.....	ʒii
Syrup Cocillana Comp. q. s. ad.....	ʒvi
Teaspoonful every two or three hours.	

It is evident that the prescriber is an eclectic. As a matter of fact, in a second letter from the physician who forwarded the prescription, we are informed that the prescriber is a graduate of an eclectic institution not a thousand miles from where he practices. The "Sp." in the prescription does not mean "Spiritus," but specific tincture. The prescriber is an advocate of specific remedies, one of which should fit the condition, but he is broad-minded enough to call help from the outside, and so adds fifteen other remedies to the specific selected, including alcohol. The inability of one mind to remember all the ingredients of so complex a mixture will explain the fact that ipecac is duplicated, occurring both as a specific tincture and as an ingredient of Bromoform Bronchial Anodyne. The latter, the manufacturers tell us, contains in one fluidounce:

Alcohol	5 per cent.
Bromoform	8 drops
Ipecac	½ gr.
Ammonium bromid	24 grs.
Benzoin	1 gr.

Syrup Cocillana Comp., one of the "elegant specialties" of Parke Davis & Co., of which they certainly ought to be very proud, contains, we are told, in one fluidounce:

Alcohol	5 per cent.
Heroin hydrochlorid	8/24 gr.
Tinct. of euphorbia pilulifera.....	120 min.
Syrup of wild lettuce.....	120 min.
Tinct. of cocillana.....	40 min.
Syrup of squill comp.....	24 min.
Cascarin, P. D. & Co.....	8 grs.
Menthol	8/100 gr.

This "elegant specialty" of Parke, Davis & Co. is not only a shotgun prescription, but has as one of its ingredients

a mixture itself containing three ingredients, namely: Syrup Squill Comp. (Coxe's Hive Syrup), making ten in all—a beautiful example of scientific pharmacy.

We wonder if our eclectic brother really appreciated that his prescription, written out, would be as follows:

Sp. sticta	Gtt xv
Sp. ipecac	Gtt x
Sp. bryonia	Gtt x
Sp. macrotys	3i
Alcohol	5 per cent.
Bromoform	8 drops
Ipecac	½ gr.
Ammonium bromid.	24 grs.
Benzoin	1 gr.
Alcohol	5 per cent.
Heroin hydrochlorid	8/24 gr.
Tinct. of euphorbia pilulifera	120 min.
Syrup of wild lettuce	120 min.
Tinct. of cocillana	40 min.
Fluidextract of squill	60 min.
Fluidextract of senega	60 min.
Antimony and potassium tartate	1 gr.
Cascarin, P. D. & Co.	8 grs.
Menthol	8/100 gr.

To use a slang expression, this is certainly going some!—
(From *The Journal A. M. A.*, March 18, 1911.)

"A Cough Syrup with a History"

The following letter was received from Dr. Geo. P. Tolman, Watsonville, Cal.:

To the Editor:—The enclosed advertisement was underscored and mailed to me by my druggist. The properties of cocillana are similar to ipecac. The dose of the fluidextract is from 10 to 20 minims. Each fluidounce of the extraordinary (!) dark-colored cough marvel of P. D. & Co. contains 40 minims of the tincture. If the tincture of cocillana is 10 per cent. (the average tincture strength) you can see that to get a minimal dose of the drug you would have to take 2½ fluidounces of the syrup.

"Query: Can we still hang on to the old-fashioned cough mixtures freshly compounded by our druggists or shall we put our shoulders to the wheel and help P. D. & Co. save the nation and make a few dollars for the druggist?"

"The secret of its prompt recognition lay in its unusual composition." Nay; its prompt recognition lay in liberal and persistent advertising. "It quickly made a 'hit' with physicians"—because too many physicians, like other human beings, are susceptible to the psychology of advertising. Here is the "unusual composition," as given by the manufacturers:

"Tinct. Euphorbia pilulifera, 120 mins.; Syrup Wild Lettuce, 120 mins.; Tinct. Cocillana, 40 mins.; Syrup Squill Compound, 24 mins.; Cascarin (P. D. & Co.), 8 grs.; Heroin hydrochloride, 8-24 gr.; Menthol, 8-100 gr."

The following is a reproduction of the advertisement referred to:

A cough syrup with a history.

Syrup Cocillana Compound established itself with the medical profession in a single season. It was introduced in 1906. The secret of its prompt recognition lay in its unusual composition. The formula showed a rare combination of astringents and sedatives. It quickly made a "hit" with physicians. The name "Syrup Cocillana Compound" soon began to appear on prescriptions. Today this agent is the most widely prescribed of all preparations for cough.

Syrup Cocillana Compound is a profitable product for the druggist to sell. It commands a good price. Being totally unlike the common, ordinary dark-colored "cough mixtures," it does not enter into competition with them. Be prepared to dispense it.

Supplied in pint, 5-pint and gallon bottles.

Home Offices and Laboratories,
Detroit, Michigan.

PARKE, DAVIS & CO.

As we have said above, Parke, Davis & Co. should be proud of this "elegant specialty." It would be hard to find a better specimen of a shotgun prescription; not only does the prescription contain eight ingredients, but one of these ingredients (compound syrup of squill) itself contains three.

As our correspondent correctly states, the drug from which the name (not the action) of the preparation is derived comes from Bolivia and has properties similar—but evidently inferior—to ipecac. That it possesses but little therapeutic value is perhaps best evidenced by the fact that, in spite of the propaganda made for it by Parke, Davis & Co., neither the drug nor any preparation of it is listed, so far as we know, by any other large pharmaceutical house, with one exception. Besides cocillana the preparation contains two other obsolete drugs, wild lettuce and *euphorbia pilulifera*. The activity of the "cough syrup," it is needless to say, depends in the main on the drug which is more or less buried in the published formula: heroin hydrochlorid. At one time Parke, Davis & Co. admitted that the preparation owed its

chief value to heroin. In a letter to the Council on Pharmacy and Chemistry the firm said:

"The physiologic action of this syrup is that which would be suggested by the constituents. Because of its activity the most prominent action would be that characteristic of heroin hydrochlorid."

Without doubt the important ingredient, from the point of view of therapeutic potency, is the heroin; and it is this drug doubtless, that makes the mixture a good "repeater." Syrup Cocillana Compound is a nostrum sailing under false colors. Whether its continued use is due to its mysterious, meaningless, misleading name or merely to insistent and persistent advertising methods of Parke, Davis & Co. is a question. Neither explanation is any credit to the medical profession which tolerates it, or to the physician who prescribes it. —(*From The Journal A. M. A., Feb. 15, 1913.*)

AUBERGIER'S SYRUP OF LACTUCARIUM

That clause in the Federal Food and Drugs Act which requires certain potent drugs to be declared on the label of the proprietary mixtures containing them has been responsible for clearing up many mysteries. Physicians have frequently wondered why they were unable to obtain from the syrup of lactucarium, U. S. P., the therapeutic results which they were able to obtain from a proprietary product known as Aubergier's Syrup of Lactucarium, sold by Fougere & Co. at an exorbitant price and put up in "patent-medicine" style. The milk-juice of lettuce once bore the reputation of being a soporific—a reputation that has been artificially maintained largely through the effects of the Aubergier preparation. With the advent of the Food and Drugs Act the secret of the soporific effect of the Aubergier product was explained—it contains morphin.¹

The practical difficulties of making a satisfactory syrup of lactucarium are not realized by most physicians. To such the following note, presented at a meeting of the Pennsylvania Pharmaceutical Association by Mr. Louis Emanuel, president of the Pennsylvania Pharmacy Board, will prove enlightening:

"Did you ever make a syrup of lactucarium direct from the crude drug? If you did, shake hands, and let me hail you as a brother, a brother pharmacist in fact worthy of the title. If you did not, I am sorry for you; you have missed something worth knowing.

"The *American Journal of Pharmacy* tells us that in 1851 'Aubergier cultivated lactuca and poppy on a larger scale, in order to obtain lactucarium and opium. Please note the

1. Technically, this is incorrect, as the company had inconspicuously stated in the "literature"—not on the label—that the preparation contained "extract of opium."

latter for further reference. In lactucarium he found lactucin, mannite, resin, cerin, asparmid, brown coloring-substance and oxalic acid.' In 1860, in the same publication, Proctor says: 'The attention of the medical practitioners has of late been turned to the syrup of lactucarium, and the preparation sold usually by apothecaries in this city is that known as Aubergier's, a French preparation, made by dissolving 30 parts of alcoholic extract of lactucarium in 500 parts of boiling water, straining the liquor and adding 15,000 parts of boiling simple syrup, which is kept boiling, and albuminous water added from time to time until it is clarified.' In '66, '77, '78, '82 and '84 various writers produced elaborate dissertations on the supposed improved methods of making this syrup, but not one has had the temerity of inquiring into the therapeutic value of this preparation, or to examine the French preparation to ascertain whence comes its vaunted superiority.

"The French, it is said, are an impressionable people, but they appear to have a limit; they do not take any chances on *plain* syrup of lactucarium. Theirs contains the added product, extract of opium. This implies a lack of faith in soporific properties of lactucarium, and displays a recklessness in regard to cost and labor.

"The National Dispensatory, fifth edition, says:

"The utility of retaining lactucarium as an official medicine is very doubtful. It may possibly be desirable as a hypnotic for very impressionable persons, with whom faith in a remedy supplies its want of intrinsic efficiency."

"The official *modus operandi* for making this syrup looks laborious, but the innocent-looking task of reducing the drug to a coarse powder is a revelation to the uninitiated.

"It was hot day in July and it took my 175-pound clerk and me all that day to reduce 50 gm. of lactucarium to a satisfactory condition. The stuff looked like old pieces of discarded rubber shoes, and it really appeared to act like rubber. After perspiring all day with the Pharmacopeia and iron mortar, imagine our disgust, if you can, on reading in the National Dispensatory the following:

"This alcoholic preparation of lactucarium is quite as valueless and more objectionable than the syrup of the same drug.

"Moral: Why pay \$6.50 a pound for material that has no medicinal value, and is so hard to manipulate as lactucarium when decrepit rubber shoes are so cheap? You can have just as much fun on a hot summer day in reducing the latter to a coarse powder with clean sand in an iron mortar as you can with the more expensive material."

One of the advantages claimed for ready-made prescriptions over the made-to-order variety, or even over pharmacopeial preparations, is that they are more elegant in appearance and less offensive to the nostrils and palate. This is the common experience of physicians who, having prescribed some ready-made mixture, wish to change the dose of one of its constituents and write a prescription or ask their pharmacists to prepare a similar preparation. The

inability of the pharmacist to prepare a preparation even approaching the original in appearance, color or taste usually leads to increased confidence in the skill of the manufacturer of the proprietary and a correspondingly decreased belief in the pharmacist's professional attainments. But these conclusions, although natural, are based on false premises. As the proprietary did not have the composition declared on the label, a mixture based on the formula differed more or less widely from the proprietary it was expected to resemble.—(*From The Journal A. M. A., Nov. 9, 1912.*)

A Protest and a Reply

Three months after publishing the foregoing we received a nine-page communication from Comar & Co. of Paris, the promoters of Aubergier's Syrup of Lactucarium, in which they took issue with some of the statements in our article. The company claimed that a possible reason for the difficulty experienced by Mr. Louis Emmanuel in trying to make the Syrup of Lactucarium from the crude drug is that he did not use the same variety of Lactucarium that it employs. Furthermore, it said that the presence of morphin in the product was acknowledged before the passage of the Food and Drugs Act. On more careful investigation, we find that this is true—that the presence of "a certain proportion of extract of opium" in the preparation was mentioned even before the federal Food and Drugs Act compelled the morphin content to be published on the label. Technically, then, THE JOURNAL was incorrect in making the implication that the medical profession was not apprised of the fact that Aubergier's Syrup of Lactucarium contained morphin; practically it was right. The information that Comar & Co. gave to physicians was buried in its advertising "literature" so that it is fair to assume that not one physician in ten thousand knew—previous to the Food and Drugs Act—that Aubergier's Syrup of Lactucarium contained morphin.—(*From The Journal A. M. A., Nov. 9, 1912.*)

TARTARLITHINE

Tartarlithine was examined by two chemists whose reports indicate that it is an effervescing preparation composed approximately of 20 per cent. of carbonate of lithium and about 80 per cent. of tartaric acid. Thus it is simply another of the hundreds of lithia preparations on the market offered for the cure of rheumatism. This in spite of the fact that scientific investigation and clinical experience have demonstrated that lithia is of very little use in the treatment of that disease. While the advertisement carries the idea that Tartarlithine is a product of the Tartarlithine Company, and that McKesson and Robbins are simply selling agents,

we are informed that the business is owned by McKesson and Robbins, who under this style manufacture a remedy for rheumatism.—(*Abstracted from The Journal A. M. A., April 23, 1907.*)

THOXOS

Thoxos is a "specialty" of John Wyeth and Brother. From an advertising circular we learn that it "offers to the physician a rational treatment for Rheumatism, both the Subacute and Chronic forms, Lithemia, Rheumatic Arthritis, Gout, Sciatica and the various manifestations of uric diathesis," and that "it is a palatable solution of Strontium and Lithium soluble salts, thirty-two grains, combined with twenty-four minims Wine of Colchicum Seed and a vegetable alterative, in each fluidounce, flavored with aromatics." This "formula" does not indicate the acid with which the metals strontium and lithium are combined, or what the "vegetable alterative" is; it is essentially a secret preparation. To learn what the missing and presumably active ingredients are an analysis was made by our chemists.

LABORATORY REPORT

One original bottle of Thoxos, John Wyeth and Brother, Philadelphia, was purchased and submitted to analysis. The bottle contained a brown liquid having an aromatic odor and a sweet taste. The specific gravity of the liquid was 1.118 at 15 C. (60 F.) The solution was acid to litmus. Qualitatively the following constituents were detected: strontium, potassium, sodium, lithium, ammonium, salicylate, iodid, glycerin, alkaloid, alcohol and water. By the smell and taste, oil of wintergreen, or methyl salicylate, and oil of sassafras were recognized. Positive tests for a saponin-like body indicated the probable presence of sarsaparilla.

Quantitatively the following results were obtained:

Ammonia (NH ₃)	0.006	per cent.
Lithium (Li)	0.04	per cent.
Potassium (K)	0.13	per cent.
Sodium (Na)	0.03	per cent.
Strontium (Sr.)	1.03	per cent.
Iodid (I)	0.46	per cent.
Salicylate (C ₆ H ₄ .OH.COO)	4.19	per cent.
Glycerin	19.2	per cent.

From the analytic results it would appear that the preparation contains approximately potassium iodid, 0.67 gm. per hundred c.c., or 3 grains per fluidounce; lithium salicylate [Li(C₇H₅O₃)], 0.9 gm. per hundred c.c., or 4 grains per fluidounce; strontium salicylate [Sr(C₇H₅O₃)₂.2H₂O], 5.75 gm. per hundred c.c., or 26 grains per fluidounce, and some salicylic acid combined with sodium and also in the free state. The total salicylate found is equal to 5.47 gm. of sodium salicylate per hundred c.c., or 25 grains per fluidounce.

As strontium salicylate and lithium salicylate are now generally considered to differ but slightly, if at all, in their action from that of sodium salicylate, each dose of Thoxos, 1 teaspoonful or 4 c.c., may be considered the equivalent of 0.2 gm. or 3 grains of sodium salicylate with a fractional dose of colchicum. Hence this nostrum—for this is the correct definition—is a mixture of no more value than a prescription of sodium salicylate with a fractional dose of potassium iodid and colchicum, one that any doctor could write and any druggist dispense. Yet it is doubtless prescribed by physicians under the belief that it possesses some occult power not to be found in ordinary drugs and their combinations. To prescribe Thoxos is to prescribe a name, and the patient who takes it would be as well off if he went to the nearest drug store and purchased a bottle of any of the thousand and one rheumatism cures with which the country is flooded.—(*From The Journal A. M. A., March 21, 1914.*)

TRYPSOGEN

Besides exploiting a clay poultice—"Antithermoline"—the G. W. Carnrick Company appears to be chiefly concerned in the promotion of "internal secretion" specialties; a class of preparations the therapeutic value of which is problematical. Thus it markets the diabetes remedy, "Trypsogen" tablets, said to contain "the enzyme of the islands of Langerhans with the tryptic and amyolytic ferments of the pancreas" along with gold bromid and arsenic bromid; Secretogen Elixir, said to be "prepared from gastric secretin obtained from the pyloric antrum and pancreatic secretin from the duodenum, combined with the enzymes of the peptic glands, and one-twentieth of one per cent. HCl"; Secretogen Tablets, said to be "prepared from prosecretin and succus entericus obtained from the epithelial cells of the duodenum, combined with pancreatic extract"; Kinazyme, "a preparation of extract of spleen, reinforced with trypsin, amylopsin and calcium lactate."

While great claims have been made for Trypsogen and while it has been most widely advertised, it is the consensus of opinion of the most eminent students of the question that pancreas is not really efficacious in diabetes. Were it of any value in this disease, it would have won world-wide recognition for itself ere now, in view of the great enthusiasm with which the discovery of the relation of the pancreas to diabetes was received and of the enormous amount of clinical, as well as animal, experimentation that followed. As the conditions of experiment in this question are extremely complex, it is not surprising that occasionally apparently positive results should have been obtained. Were

it really useful, it should have yielded positive results much more uniformly.

Furthermore, if pancreas were really efficacious in the treatment of diabetes mellitus, the addition of arsenic, of gold, of bromid would be entirely unnecessary.

Even were it granted that pancreas extracts are valuable in the treatment of diabetes, and that gold and arsenic also have beneficial effects, it is our opinion that Trypsogen should be considered an unscientific shotgun mixture, because fixed combinations of remedies of different potencies, such as arsenic, gold, bromid and pancreas, are therapeutically erroneous, as they do not permit of that accurate adjustment of dosage of each ingredient that is indispensable to obtain maximum benefit with minimum danger of poisoning.

Antithermoline and Trypsogen were at one time described in New and Nonofficial Remedies. These preparations were omitted when the Council's rules were revised some years ago.

When the Council was first organized it undertook only the correction of the most serious abuses that had become a part of the proprietary medicine business, and paid less attention to the therapeutic worth of a remedy; thus at that time it admitted both Antithermoline and Trypsogen to New and Nonofficial Remedies. Since then the Council has modified its rules to exclude unscientific mixtures marketed under names that are misleading or therapeutically suggestive. Accordingly it rescinded the acceptance of Antithermoline, which was essentially the official clay poultice, Cataplasma Kaolini, U. S. P. For similar reasons and because the therapeutic claims were held unwarranted Trypsogen has been omitted from New and Nonofficial Remedies.

It is to be regretted that the progress of research should be hindered and the value of genuine products of internal secretion be depreciated by confusion with such shotgun mixtures and asserted remedies, whose claims have received no scientific confirmation.—(*From The Journal A. M. A., Nov. 1, 1913.*)

TYREE'S ANTISEPTIC POWDER *

Now Advertised Direct to the Public as the "Best Preventative Known"

When the history of the "patent medicine" business comes to be written impartially and fairly, it will be realized that we, the medical profession, have been in no small degree responsible for its growth. Not a few widely advertised nostrums owe their commercial success solely to the ill

* See also report, p. 21.

considered use accorded them by physicians, to whom they were first exploited. As a well-known and brilliant advertising man once said:

"The patent medicine of the future is one that will be advertised only to doctors. Some of the most profitable remedies of the present time are of this class. They are called proprietary remedies. The general public never hears of them through the daily press. All their publicity is secured through the medical press, by means of the manufacturer's literature, sometimes gotten out in the shape of a medical journal, and through samples to doctors . . . The medical papers will reap the harvest and the physician himself, always so loud in the denunciation of 'patent medicines,' will be the most important medium of advertising at the command of the proprietary manufacturer. In fact, he is that to-day."

...the Virgin Oil of Pine, which comes
in sealed half-ounce vials in wooden car-
tons bearing the label of
The Tyree Chemical Co., Cincinnati

DON'T USE TABLETS

Use
Tyree's
Antiseptic
Powder in-
stead of bi-
chloride tablets,
carbolic acid, per-
oxide of hydrogen,
etc. A 25c box makes
two gallons, standard
solution. All druggists.
Booklet & sample free.

J. S. Tyree, Chemist, Washington, D. C.

**CATARRH
OF THE
BLADDER**

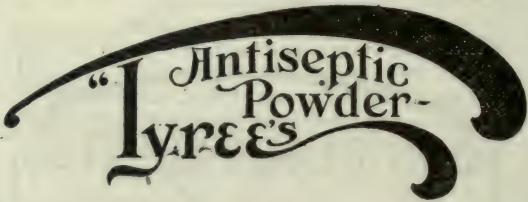
**SANTAL
CAPSULES**

Advertisement from a newspaper—Tyree's Powder as a "Patent Medicine" of the "Preventive" Type.

Of the conditions here described probably no better example can be found than Tyree's Antiseptic Powder. For years this preparation was advertised to the medical profession under claims that were fraudulent as to both composition and therapeutic effect. Analysis published in *THE JOURNAL*¹ proved that the formula given out by Tyree was absolutely false and that the preparation was, essentially, nothing but a simple mixture of sulphate of zinc and boric acid.

1. Oct. 20, 1906, and May 18, 1907.

From the first it would seem that the manufacturers of this mixture had for their objective point that period when, thanks to the use of the nostrum by physicians, it would be widely purchased by the public. Lavish advertising was done in medical journals and Tyree's Antiseptic Powder gained admission to the pages of even those journals which required the publication of a "formula"—for a formula was forthcoming. THE JOURNAL itself, until seven years ago, carried the advertisements with a "formula" until chemical examination proved the falsity of the formula, and of the therapeutic claims made for the product. The medical profession in its



Tyree's Antiseptic Powder

Tyree's Antiseptic Powder, is, in its own proper form, both safe and effective. It is not a dangerous or poisonous agent. It never kills or damages healthy tissue; is neither an escharotic nor a coagulant; but it is a reliable antiseptic, inhibiting the pernicious activity of pathogenic germs, preventing infection, and promoting the healthful condition of the most delicate tissues. It is an ideal antiseptic for the physician, the surgeon, and the patient, more especially in the treatment of diseased conditions of the genito-urinary organs, both male and female, whether of a catarrhal or infected nature. Use from two to three teaspoonfuls in one quart of water three or four times a day.

Boric Acid.....	75.57 Per Cent.
Zinc Sulphate (dry).....	17.92
Antiseptics.....	6.35
(Salicylic Acid, Carbolic Acid, Menthol, Thymol and Eucalyptol.)	

J. S. TYREE, Chemist
Washington, D. C.

Advertisement from Medical Journal—Tyree's Powder as a Highly Respectable "Ethical Proprietary."

turn prescribed the nostrum and the "original package" scheme did the rest.

Now, it seems, Tyree considers his preparation so well known that he can be independent either of the assistance of the physician or of his good-will. For Tyree's powder now goes to the public direct and newspaper readers find it advertised as:

"Ideal for douche."

"Unequalled as a douche."

"Best preventative known."

"Unequalled as a preventative."

"Has no equal as a preventative."

And the following, whose very truth must bring the blush of shame to all physicians who have the interest of scientific medicine at heart:

"Prescribed by physicians all over the world for twenty-one years."

"Ask your doctor or send for booklet."

"Used by doctors for the last twenty-one years."

"One of the highest tributes paid Tyree's Antiseptic Powder is the fact that the most successful physicians have been using it for the last twenty-one years."

Not that Tyree has entirely forsaken the medical journals, although he seems to be dropping them one by one. At the beginning of this year at least fifteen medical journals were carrying the Tyree advertisement; by March the number had fallen to seven, while in June the only journals carrying it were:

Medical Record

Chicago Medical Recorder

American Journal of Obstetrics

Pacific Medical Journal

Those who answer the newspaper advertisements receive a free sample of the powder and several leaflets and circulars giving the various uses (?) of the nostrum. Incidentally these leaflets advertise, in addition, Tyree's "Elixir Buchu and Hyoscyamus Comp.," which is recommended, in various combinations, for such conditions as acute nephritis, epilepsy, neurasthenia, gonorrhea and delirium tremens.

Bearing in mind the claim that is made in the newspaper advertisements that Tyree's Antiseptic Powder is the "best preventative" known, it is interesting to see what Tyree has to say to those druggists whom he offers to supply with circulars for free distribution:

"As these circulars deal with the care of rubber goods, for both medicinal and toilet purposes, they are of great value to the customer and will be retained for further reference. They are boosters for your rubber goods sales, too."

That a nostrum of this sort should go to the public is not surprising, but that it should have reached the public through the instrumentality of the medical profession is a serious reflection on the judgment of physicians. But the incident has a bright side. That the exploiters of this nostrum no longer find it profitable to use medical journals as a means of getting their stuff to the public but must needs use the more expensive newspaper advertising, is cause for optimism. It means that physicians are no longer prescribing, indiscriminately, proprietary products and that they are refusing to be, what they have been in the past, the unpaid distributing agents for nostrum venders.—(From *The Journal A. M. A.*, Aug. 24, 1912.)

VAPO-CRESOLENE

Vapo-Cresolene has been examined in the American Medical Association's laboratory and the chemists' report follows:

According to the statements on the trade package, Vapo-Cresolene "is a product of coal-tar possessing far greater power than carbolic acid in destroying germs of disease." It is recommended as a remedy for a number of diseases, including croup, catarrh and diphtheria. According to the manufacturers, it should be used only in "the Cresolene vaporizer," which makes it "unequaled for the disinfection of sick rooms" and the "safest and simplest method of destroying infection and purifying the air." From the examination we conclude that Vapo-Cresolene is essentially cresol and corresponds in every respect to cresol U. S. P. (Physician's Manual, page 36).

This report indicates that Vapo-Cresolene is a member of that class of proprietaries in which an ordinary product is endowed, by the manufacturer, with extraordinary virtues. The type is so common and has been referred to so frequently that but for the dangers attendant on the inhalation of any of the phenols, this particular product need not have been mentioned.—(*From The Journal A. M. A., April 4, 1908.*)

VASOGEN AND IODOVASOGEN

Another Case in Which Independent Analyses and Manufacturers' Labels Disagree

Vasogen, a product of Pearson & Company, Hamburg, Germany, has been put on the market under the various designations, "oxygenated vaseline," "water-soluble hydrocarbon" and "oxygenated carbon." The manufacturers, and also their American agents, Lehn & Fink, claim that by a special process the apparent impossibility of saponifying petrolatum has been overcome with Vasogen as the result. Disinterested chemists who have analyzed Vasogen find that the product consists essentially of an ammonium soap and petrolatum—practically an ammonia liniment mixed with petrolatum.

Just as petrolatum under its various trade names was at one time recommended as a universal ointment base, so vasogen is recommended promiscuously as a vehicle for remedies applied externally and even for internal medication—needless to say in many cases in which it is directly contra-indicated.

Iodovasogen, recommended for external application as a substitute for tincture of iodine, was examined by Zernik in 1905, who found that the iodine existed not as a free iodine, but chiefly as ammonium iodide. The therapeutic

character of the preparation is thus entirely different from that to be inferred from the labels and elsewhere, since the counter-irritant effects of free iodine are of course absent in ammonium iodide. Pearson & Co. now claim that when Zernik's findings were published they immediately modified their statements on the label in accordance with the truth. This is denied by Dr. Lungwitz, the editor of the *Therapeutische Rundschau* (*Apotheker Zeitung*, 1908, p. 900), who vigorously criticizes the misrepresentation made by Pearson & Co. in regard to Iodovasogen. He calls attention to the fact that, while Zernik's results were published over three years ago, the labels which are in use today still bear the statement that Iodovasogen consists of Vasogen 90 parts and resublimed iodine 10 parts, and Vasogen 94 parts and resublimed iodine 6 parts, respectively.

As Iodovasogen and Vasogen in various combinations are being advertised to the physicians in the United States, the above information from our German exchanges is worthy of consideration.—(*From The Journal A. M. A., Feb. 13, 1909.*)

VIBURNUM COMPOUND—AND OTHER NOSTRUMS

A number of drugs have some reputation for therapeutic value without there being any particular evidence to substantiate the claims. Viburnum, concerning which we recently received the following letter, is one of these drugs:

To the Editor:—Have you made an analysis of Viburnum Compound? Extravagant claims are being made for it and I cannot put my hand on any data. A patient has asked me concerning it and I wish to advise her honestly. I do not know but that there may be several "viburnum compounds." I rarely use any of these "put-up" preparations, and hence know but little about them.

A. J. HESSER, M.D., Pittsburgh, Pa.

No analysis of Hayden's Viburnum Compound, to which our correspondent refers, has been made in the Association laboratory. According to advertising circulars, the preparation contains American skullcap (*Scutellaria lateriflora*), cramp-bark (*Viburnum opulus*) and wild yam (*Dioscorea villosa*). Since these drugs contain no well-defined therapeutically active ingredients, an analysis of the preparation would necessarily be unsatisfactory.

A number of drugs have in some way obtained a reputation as being valuable in the treatment of diseases of women, without their therapeutic claims ever having been proved. It is said that some were used by the aborigines for such affections and we find a considerable number of them combined in various nostrums (sometimes with therapeutically active drugs) and exploited for the cure of female disorders, under most extravagant and usually absurd claims. Thus

"Pierce's Favorite Prescription" is advertised as containing black cohosh, blue cohosh, goldenseal, lady's-slipper and false unicorn-root; "Dioivurnia" (Dios Chemical Co.) as containing American skullcap, cramp-bark, wild yam, blue cohosh, black haw, star-grass, trailing arbutus and false unicorn-root; "Viburnumal" (Louisville Pharmacal Works) as containing American skullcap, cramp-bark, wild yam, star-grass and motherwort.

Most pharmaceutical houses, following the lead of nostrum-makers, put similar mixtures on the market; for example: "Elixir of Viburnum Compound" (Nelson, Baker & Co.) is said to contain cramp-bark, American skullcap and wild yam; "Elixir of Hydrastis and Viburnum Compound" (Smith, Kline & French Co.), cramp-bark, goldenseal, Jamaica dogwood and pulsatilla; "Elixir of Hydrastis and Cramp Bark Compound" (Parke, Davis & Co.), cramp-bark, hydrastis, Jamaica dogwood and pulsatilla; "Fluid Extract of Cramp Bark Compound" (H. K. Mulford Co.), American skullcap, cramp-bark and wild yam; "Mother's Cordial" (Eli Lilly & Co.), cramp-bark, blue cohosh, false unicorn and squaw vine; "Uterine Sedative Elixir" (Eli Lilly & Co.), cramp-bark, goldenseal, Jamaica dogwood and pulsatilla; "Vibutero" (Fred. Stearns & Co.), cramp-bark, wild yam, black haw, squaw vine, Jamaica dogwood, saw palmetto and pulsatilla. Practically all of these drugs except goldenseal are ignored in the standard works on pharmacology. Further, the results of careful examination by the Council on Pharmacy and Chemistry of the therapeutic claims made for most of them shows that these claims are not sustained by reliable clinical experience.

The fact is that the popularity of preparations of this kind is purely an artificially created one. A nostrum containing, let us say, extractives of some little-used or worthless drugs is put on the market and heavily advertised. Should it be advertised in a manner to make it sell, a host of imitations appear and the large pharmaceutical houses put out substitutes for it. The uncritical physician does the rest. He prescribes it indiscriminately in the class of cases for which it is advertised. Naturally, a certain proportion of the patients who take it recover, and the recoveries are credited to the nostrum. A vicious circle is thus established and the demand for the stuff increases. Its sale, together with the sale of similar products, continues until the overwhelming experience of those who have prescribed it proves its uselessness. In the meantime the manufacturers have reaped a harvest at the expense both of the public and of the medical profession. And the manufacturers' excuse for putting such absurd "specialties" on the market is that physicians prescribe them!—(*From The Journal A. M. A., Aug. 31, 1912.*)

WHEELER'S NERVE VITALIZER

Names of nostrums often mislead by the use of fake nomenclature giving erroneous ideas regarding the composition of the preparation or misrepresenting the true action of the nostrum. As an example of the latter class Wheeler's Nerve Vitalizer was examined in the Association laboratory and found to be not a vitalizer, as the name implies, but rather a nerve sedative. The results of the examination follow:

Wheeler's Nerve Vitalizer was packed in a carton bearing the name of the preparation, its manufacturers, "The J. W. Brant Co., Ltd., Albion, Mich.," and an exhaustive list of the diseases for which the product is intended, besides the general statement that it is a cure for "all nervous diseases." The "Vitalizer" is a brown, syrupy liquid having a peculiar salty taste partially masked by licorice. Qualitative tests showed the presence of sodium, potassium and bromin, and no other acid radicles except small quantities of chlorin. It was decided therefore that the preparation contained a mixture of sodium and potassium bromids. In order to separate the chlorin and bromin the preparation was evaporated, charred, extracted with water and acetic acid and potassium permanganate added and the mixture distilled with steam until all the bromin had been distilled over, thus leaving the chlorin in the distilling flask. The solution in the distilling flask was then treated with silver nitrate and the chlorin estimated in the usual way. The quantity thus obtained was subtracted from the total silver bromid and chlorin obtained by precipitating a solution of the preparation with silver nitrate and the remainder calculated to bromin.

By this method several samples of 5 c.c. each of the preparation yielded an average of 0.0059 gm. silver chlorid or 0.0012 gm. per c.c. The total silver haloids obtained by direct precipitation of the diluted preparation was found to be 0.3158 gm. per c.c., thus leaving 0.3146 gm. silver bromid to be calculated to bromin.

The total sodium and potassium was obtained in the usual way and the potassium determined as the chlorplatinat and the sodium calculated from the difference. By this method the quantity of sodium found calculated to sodium bromid gave the following results: (a) 0.0629 gm. and (b) 0.0632 gm., or an average of 0.063 gm. per c.c. From the potassium estimations the following were calculated: (a) 0.1264 gm. potassium bromid and (b) 0.1259 gm. potassium bromid per c.c., an average of 0.1261 gm. potassium bromid per c.c.

The bromids calculated from the sodium and potassium determinations were found to be 0.0630 gm. sodium bromid and 0.1261 gm. potassium bromid per c.c., the equivalent of 0.3139 gm. silver bromid. The total silver bromid obtained was 0.3146 gm., showing practical agreement with the total bromids calculated from the sodium and potassium determinations.

The preparation contained then 6.30 gm. sodium bromid and 12.61 gm. potassium bromid per 100 c.c., or 9.73 grains of potassium bromid and 4.86 grains sodium bromid, a bromid content equal to 15.35 grains potassium bromid per fluid dram.

ZYMOTOID

A Fraud of the Liquozone-Oxytonic-Septicide Type

Dr. Arnold's Zymotoid, a nostrum manufactured by Arnold's Zymotoid Company, Rockford, Ill., is claimed to be an "antiseptic, germicide and antiphlogistic" which "has absolutely no peer in medicine." According to the statements of the manufacturer, Zymotoid is "successfully employed not only as an external dressing on all wounded and diseased surfaces, but in all zymotic conditions wherein a reliable antiseptic and germicide is needed internally." And in telling physicians of the great value of Zymotoid the company says:

"We assured them that if they would simply place Zymotoid 'next' to any wounded surface—and nothing else—they would have no inflammation, no suppuration, no infection or blood poison. Its prompt use in all cases where such trouble arises gives immediate and certain relief."

This is a large contract to be undertaken by Zymotoid—or any other preparation—which, as will be shown, consists principally of boric acid and water. The company also appends to its announcement concerning Zymotoid a number of the usual testimonials and a lot of alleged "case reports."

Zymotoid seems to be exploited principally by circulars addressed to physicians and by agents who attempt to sell it to physicians. They also try to work factories and other large employers of labor. In their circular to physicians they claim that "Zymotoid is strictly ethical." And "we publish its composition." The composition given is: "sulphur, niter, cinnamon and boric acid in gaseous solution." It is also claimed to be "a chemical compound—not a mixture—which is wholly non-toxic and can be used as freely as desired internally absolutely without harm to the smallest child." On the label of the Zymotoid package is the following:

"Zymotoid is a concentrated chemical compound consisting of the solids and gases of sulphur, potassium nitrate, cinnamon and carbon held in a solution of boric acid."

A specimen of Zymotoid was examined by our chemists and their report follows. As will be seen, it is simply another fraud of the Liquozone-Oxytonic-Septicide type.

LABORATORY REPORT ON ZYMOTOID

Zymotoid is a pale yellow liquid having a strong odor like sulphur dioxid. No odor suggestive of cinnamon was observed even after the sulphur dioxid had been fixed by

the addition of an alkali. Qualitative tests indicated the presence of boric acid, sulphuric acid, sulphur dioxid and traces each, of a nitrate, potassium and some unidentified organic matter. Alkaloids, cinnamic acid, glycerin and soaps were absent. From the results of the quantitative examination it is concluded that the composition of Zymotoid is essentially as follows:¹

Boric acid (H_3BO_3).....	0.637 gm.
Sulphur dioxid (SO_2).....	0.129 gm.
Sulphuric acid (H_2SO_4).....	0.048 gm.
Potassium nitrate	trace
Unidentified organic matter.....	trace
Water (by difference) to make.....	100 c.c.

The analysis shows that but for the presence of boric acid the composition of Zymotoid is similar to other fraudulent "microbe killers" which have been exploited in recent years and of which some have been declared misbranded by the federal government. For example, "Radam's Microbe Killer"² was found by the federal chemists to be composed of water, containing small quantities of sulphur dioxid and sulphuric acid. "Liquozone," another nostrum which was widely exploited a few years ago, is said to have a similar composition.³ According to an analysis made at the North Dakota Agricultural Experiment Station,⁴ "Oxytonic" has a similar composition. The nostrum "Septicide," was found by the federal chemists to be composed of water with small quantities of sulphur dioxid, sulphuric acid and a trace of a nitrate.—(*From The Journal A. M. A., April 6, 1912.*)

1. Details of the analysis appear in the annual reports of the Chemical Laboratory.

2. THE JOURNAL A. M. A., July 16, 1910, p. 235.

3. THE JOURNAL A. M. A., March 28, 1908, p. 1065.

4. THE JOURNAL A. M. A., Jan. 1, 1910, p. 63.

PART IV

CONTRIBUTIONS FROM THE JOURNAL: MISCELLANEOUS MATTER

ACETPHENETIDIN AND PHENACETIN—THEIR RELATIVE PURITY

Until six years ago the chemical product known as phenacetin was patented both as to process and to product. As the patent ran out at that time, anyone, of course, could manufacture it. It was placed in the Pharmacopeia under the name "acetphenetidin." It is on the market now under both names, "phenacetin" and "acetphenetidin." The price of the former is five times¹ that of the latter, hence it is rather important to know whether or not one is, in any way, better or purer than the other. The original patentees or manufacturers, the Farbenfabriken of Elberfeld Company, market the product under the name "phenacetin" and also under the official name "acetphenetidin," the former at about 33 cents an ounce and the latter at about 6 or 7 cents an ounce. Evidently these people believe that acetphenetidin is all right since their price-list says: "Our product is of the highest standard of purity," and in another place: "On account of the low price of acetphenetidin, U. S. P., it is especially suitable for the manufacture of medicinal specialties, such as headache powders, etc." Remember that it is the manufacturers of phenacetin who say this.

The question arose whether or not phenacetin differs from acetphenetidin. If it does, then physicians should know it. An inquiry was addressed to Farbenfabriken of Elberfeld Company and also to Lehn & Fink, two firms which market the product in this country under both names, asking in what respect the two products differ. No answer was received from either firm. With the object of answering the question our chemists have investigated the preparations on the market, both those sold under the name "phenacetin" and those under the official title "acetphenetidin." The following is a summary of their report:²

THE CHEMISTS' REPORT

Physical Appearance.—All the specimens were found to be fine white crystalline powders, differing somewhat in appearance as follows: Four specimens—Acetphenetidin

1. Phenacetin is listed at 33 cents an ounce, acetphenetidin at 98 cents a pound in quarter-pound lots.

2. Full details of analysis are published in Volume V of the annual report of the Chemical Laboratory.

(Farbenfabriken), Phenacetin (Specimen 1³—Farbenfabriken), Phenacetin (Specimen 2³—Farbenfabriken) and Acetphenetidin (Squibb)—appeared very much alike, each being a very fine crystalline powder, differing only slightly as to fineness. Five other specimens—Phenacetin (Lehn & Fink), Acetphenetidin, U. S. P. (Lehn & Fink), Acetphenetidin (Merck), and two specimens of Acetphenetidin (Powers-Weightman-Rosengarten), had the same general appearance, each consisting of a fine crystalline powder containing a considerable proportion of large rectangular plates. Three specimens—Acetphenetidin (Mallinckrodt) and two specimens of Acetphenetidin (Powers-Weightman-Rosengarten)—had the same general appearance, being a moderately fine and homogeneous crystalline powder. When examined microscopically with a low-power lens the Mallinckrodt product appeared to consist principally of rectangular prisms and the Powers-Weightman-Rosengarten product to be made up largely of plates.

Identity.—All of the specimens when tested side by side responded to and complied with the identity tests of the United States, British, German, Swiss, Dutch, Swedish, Spanish, and Danish pharmacopeias. The reactions given by the several specimens were all the same, showing no difference in any case.

Melting-Points.—As a further proof of identity and similarity the melting-points of the different specimens were taken and found to be: Acetphenetidin (Farbenfabriken), 134.2 C.; Phenacetin (Specimen 1—Farbenfabriken) 133.7 C.; Phenacetin (Lehn & Fink), 134.7 C.; Acetphenetidin (Lehn & Fink) 134.9 C.; Acetphenetidin (Powers-Weightman-Rosengarten), (1) 134.3 C., (2) 133.6 C., (3) 134.7 C., (4) 134.7 C.; Acetphenetidin (Squibb) 134.2 C.; Acetphenetidin (Merck), 134.8 C., and Acetphenetidin (Mallinckrodt), 134.2 C. The melting-point is given as 135 C. in the British, French and Spanish pharmacopeias, and as 134 to 135 C. in the United States, German, Swiss, Danish, Swedish and Dutch pharmacopeias. Thus all comply with the standard given in our pharmacopeia and most foreign pharmacopeias with two exceptions and those respectively only 0.3 C. and 0.4 C. low.

Absence of Acetanilid.—The absence of acetanilid in all the specimens was indicated by the bromin test of the United States, British, German, Swiss, Dutch, Swedish and Danish pharmacopeias.

Absence of Carbonizable Matter.—The absence of carbonizable matter was shown in all specimens by the sulphuric acid test of the United States, British, German, French, Swiss, Dutch, Swedish and Spanish pharmacopeias.

Water-Soluble Matter.—All specimens when tested for excess of water-soluble matter came well within the limit (0.50 per cent.) set by the French pharmacopeia, the greatest amount being 0.20 per cent.

3. "Specimen 1" is a specimen of the product regularly sold in this country. "Specimen 2" is a specimen of a product sold in England and whose resale in this country was prohibited by the manufacturers.

Ash.—When heated, all the specimens were found to yield practically no ash, the residues from 1 gm. samples weighing in no case more than 0.0004 gm.

Absence of Paraphenetidin.—When tested by the methods of the United States, British, German and French pharmacopeias, the absence of an impurity of paraphenetidin was shown in all specimens, with the exception of one specimen obtained from Powers-Weightman-Rosengarten Co., which gave a positive, though not strong, reaction and two other specimens of the same firm which reacted still more faintly.

TABLE SHOWING RESULTS OF ANALYSES OF VARIOUS SPECIMENS OF ACETPHENETIDIN AND PHENACETIN *

Name	Physical Appearance	Melting Point (Corr.) C.	Water-Soluble Matter in, per Cent.	Ash, per Cent.	Paraphenetidin, U. S. P. Test †	Paraphenetidin, Swiss Test †
Acetphenetidin (Farbenfabriken) (1)	Very fine homogeneous crystalline powder	134.2	0.17	0.02	—	+
Phenacetin (Farbenfabriken)	Very fine homogeneous crystalline powder	133.7	0.06	0.00	—	+
Phenacetin (Lehn & Fink)	Fine crystalline powder, not uniform	134.7	0.11	0.02	—	+
Acetphenetidin (Lehn & Fink)	Fine crystalline powder, not uniform	134.8	0.13	0.00	—	+
Acetphenetidin (P. W. R.) (1)	Homogeneous crystalline powder	134.3	0.19	0.03	+	+
Acetphenetidin (P. W. R.) (2)	Homogeneous crystalline powder	134.7	0.16	0.02	+	+
Acetphenetidin (P. W. R.) (3)	Homogeneous crystalline powder	134.7	0.14	0.02	+	+
Acetphenetidin (P. W. R.) (4)	Fine crystalline powder	133.6	0.20	0.01	—	—
Acetphenetidin (Squibb)	Fine crystalline powder	134.3	0.19	0.00	—	+
Acetphenetidin (Merck)	Fine crystalline powder	134.8	0.15	0.03	—	—
Acetphenetidin (Mallinckrodt)	Fine crystalline powder	134.2	0.11	0.01	—	—

* In all cases identity was confirmed; acetanilid was absent; carbonizable matter was absent.

† In this column plus indicates presence; minus, absence.

While this firm's product alone gave any reaction whatever when the U. S. P. test for paraphenetidin was applied with the test of the Swiss pharmacopeia, all but Acetphenetidin (Mallinckrodt), Acetphenetidin (Merck) and one specimen of Powers-Weightman-Rosengarten Co. gave positive, though very faint, reactions, indicating that the majority of specimens, including those of the original manufacturer, contain a minute trace of this impurity.

Our findings regarding the product of Powers-Weightman-Rosengarten Co. having been communicated to this firm, their correctness was acknowledged. At the same time the firm wrote: "All that we have on hand now gives negative tests for paraphenetidin, and we believe our present records are correct when we state that all lots which we are supplying now, and have been supplying for some time past, answer all U. S. P. requirements."

This examination appears to demonstrate that the chemical substance, para-acetphenetidin, whether sold as acetphenetidin, U. S. P., or as phenacetin, is practically identical. The impurity of the product of some of the specimens coming from Powers-Weightman-Rosengarten Co. is too slight to be considered dangerous. Furthermore, a comparison of the "lot numbers" indicates that this firm has been improving its product steadily so that in the future its assurances of an unimpeachable product may be relied on. Inasmuch, therefore, as acetphenetidin complies with all the pharmacopeial requirements as to identity and purity, in just the same way as phenacetin, which sells for as high as five times the price of acetphenetidin, physicians need not hesitate in using the title of the U. S. P. "acetphenetidin" when prescribing this produce.—(*From The Journal A. M. A., March 16, 1912.*)

Acetphenetidin and Phenacetin

A physician-pharmacist writes: "If a prescription calls for 'phenacetin,' should the pharmacist dispense 'phenacetin-Bayer'—that is, the phenacetin manufactured by the original patentee—or would he be justified in dispensing the official acetphenetidin, manufactured by any reliable chemical or pharmaceutical house?"

Unless the pharmacist happens to know that the physician in writing the prescription desired the Bayer brand, he would be justified in dispensing acetphenetidin, U. S. P. As a general thing, physicians use the word "phenacetin" without intending to prescribe any particular brand or make, simply because they are familiar with this word and are not familiar with the official term "acetphenetidin." They will doubtless continue to use the term "phenacetin" and we know of no sufficient reason for doing otherwise. During the life of the patent the word "phenacetin" became a familiar one, and the product became generally known by this term. But a coined name for a patented article loses its proprietary character and becomes the common name of the article when the patent expires. In other words, when the patent expires, not only the product but also the name itself becomes common property. This principle has been recognized by the courts. Those who formerly controlled the product and the name "phenacetin" evidently recognized this principle, for

they have taken no steps to prosecute a firm in this country which sells the product openly under the name "phenacetin." It might be added that the preparation is official in most foreign pharmacopeias under the name "phenacetin." In agreement also with this principle the Council on Pharmacy and Chemistry (*THE JOURNAL*, April 27, p. 1298) lists in New and Nonofficial Remedies such products as "lanolin," "phenacetin," "sulphonal" and "trional" as non-proprietary names applied to *Adeps lanæ hydrosus*, U. S. P., *Acetphenetidinum*, U. S. P., *Sulphonmethanum*, U. S. P., and *Sulphonethylmethanum*, U. S. P., respectively.

In view of these facts—and also bearing in mind the findings of the Association's Chemical Laboratory (*THE JOURNAL*, March 16, p. 801) that the preparations on the market under the title "acetphenetidin" are of equal quality with the preparations sold under the name "phenacetin"—the pharmacist should recognize that acetphenetidin is identical with phenacetin, is prescribed, provided, of course, that no special brand of phenacetin is ordered.

It is the physician's privilege, of course, to specify the goods of a particular manufacturer, but in view of the fact brought out above that all brands of this chemical have tested up to the U. S. P. standard, it is placing an unnecessary burden on the pharmacist to require him to have on hand many different brands of one substance. The physician should save this privilege for use when prescribing some product that differs materially in its various forms on the market, as for example in the case of certain fluidextracts.

Physicians will doubtless find that the above comments will interest their local pharmacists. It is of mutual value for physicians to talk these matters over with their pharmacists.—(*From The Journal A. M. A.*, Oct. 5, 1912).

CLEAN ADVERTISING

It is individual effort that counts for most in every movement for better things—socially, economically or politically. Realizing this, *THE JOURNAL* repeatedly urges physicians who write regarding various fraudulent advertisements to enter their individual, personal protest against the continuation of such advertisements.

Within the past few months *THE JOURNAL* has had brought to its attention a good example of what may be accomplished by personal effort in cleaning up the advertising pages of a fraternal publication. The *Royal Neighbor*, official organ of a fraternal organization, until comparatively recently, carried numerous fraudulent medical advertisements. Fake liquor cures, rheumatism cures, tapeworm expellers, tobacco-habit cures, asthma and hay-fever cures, epilepsy cures, etc., disgraced its advertising pages. These called forth protests

from Dr. E. A. Hall, Henry, Ill., who addressed letters to the official physicians of the fraternal order that the *Royal Neighbor* represents, objecting to such advertisements. These letters in turn reached the advertising manager, and it was not long before the board of managers took the matter up for consideration and decided to eliminate this class of advertising from their official organ. By December, 1913, the *Royal Neighbor* came to its readers clean. There is no doubt that the same results can be duplicated in similar cases. Whether they are will depend on the amount of active work done by individuals interested in the question of clean advertising.—(From *The Journal A. M. A.*, Feb. 14, 1914.)

LIPPINCOTT'S MAGAZINE

Its Advertising—a Protest and an Excuse

A few days ago a physician wrote to THE JOURNAL enclosing two advertisements taken from the current issue of *Lippincott's* magazine. One of these was a half-page advertisement of that outrageous fraud, the "Oxydonor;" the other was a full-page advertisement of J. B. Lippincott Company, Philadelphia, calling for salesmen "to present standard medical books to physicians only."

The physician sending in this material asked us to send to *Lippincott's* a pamphlet showing the fraudulence of the Oxydonor. Instead of doing so, we sent the pamphlet to the physician and suggested that he write a personal letter in the belief that individual missionary work is the most effective way of fighting fraud. Accordingly the doctor wrote to *Lippincott's* and received in reply this letter from the advertising department of that publication:


"Your letter of the 23d received, and in reply beg to say that we do not approve of fraudulent advertising, and we have never before been advised that the advertisement to which you call our attention was objectionable. *In fact, we know nothing whatever about it.* [Italics ours.—ED.] It came to us, as do most of the others, through an advertising agency, and while we do not willingly publish anything that is fraudulent or objectionable, *it is not our custom to verify the claims of advertisers* [Italics, again, ours.—ED.] especially when the same copy is being run in almost every other high-grade publication.

"We have a very high regard for the American Medical Association, and they undoubtedly are doing a splendid work in ridding the country of fake medical preparations, but the mere fact that they condemn some of our advertisers is hardly sufficient proof for us to refuse the advertising, because, *if the advertiser desires to do so, he can make us prove in the courts that he is a faker, or claim damages from us for refusing to publish his advertisement.* [Our italics.—ED.] If the American Medical Association will guarantee to pro-

tect the publishers against loss from damage suits brought by advertisers whose business they refuse to accept, then, we believe that the publishers would gladly reject them, but not many of the publishers are in a position to investigate the merits of all the advertising that is offered, especially when the claims are backed up by affidavits of reputable people who believe themselves to have been cured by the preparation.

"We certainly do not wish to jeopardize our medical publications by advertising fake schemes or propositions of any kind, and we thank you for writing us concerning the matter and will now look into this particular case."

**HEALTH
POWER
AND VIGOR
WITHIN YOUR
GRASP**



80% of every population are only "half alive." How about yourself? Are you suffering from any form of disease? If so, stop and investigate

Oxydonor

This wonderful instrument has been tested in thousands of cases of disease of every name for the past twenty-three years and to-day stands on its merits. We court the severest investigation. Many of the best families throughout the World are using OXYDONOR exclusive of all drugs and medicine.

Our Guarantee

Oxydonor, with full directions, will be SENT ON 90-DAY TRIAL. If not entirely satisfied with results at end of that time, the purchase price will be cheerfully refunded.

192 PAGE BOOK

mailed free at your request. Just fill out the coupon and mail or a post-card will do. Ask about our proposition to Sales Agents.

A No. 1 territory is open to high class men.

Write To-day

DR. H. SANCHE & CO.

Dept. 8
600 Fifth Ave.
New York
N. Y.

Please send me immediately free and prepaid, three 192 page 10 x 5 OXYDONOR, full particulars of OXYDONOR. I assume no obligation of any kind.

361 St. Catherine
St. W.
Montreal, P. Q.
Canada

Name.....

Ph. kindly mention Lippincott's.

LIPPINCOTT'S MEDICAL ADVERTISING.

Salesmen WANTED

to present standard medical books to physicians only. We have just issued and have now in preparation many new books that are meeting with pronounced favor. Successful books mean successful salesmen, good income, and agreeable occupation. Address, with fullest details and business references

J. B. Lippincott Company

Philadelphia Pennsylvania

Is writing to advertising kindly mention Lippincott's

Photographic reproduction (much reduced) of two advertisements from January, 1914, *Lippincott's*. One of a fraudulent quasi-medical device, the "Oxydonor"; the other, calling for salesmen to introduce "standard medical books to physicians."

This letter discloses the workings of the brain of an advertising man of the old school. The principles enunciated therein are those that dominated the advertising field until quite recently. They represent the *laissez faire* doctrine as applied to advertising. At that time the only unacceptable advertising copy was that which would debar the publication using it from the United States mails. This was the yardstick by which all advertising was measured at that time.

The economic conscience has since awakened. There are few reputable magazines today, we venture to believe, that would be willing to go on record to the effect that it is not their "custom to verify the claims of advertisers." The modern, progressive advertising man recognizes not only the responsibilities his profession imposes, but also realizes that, from the narrower view of enlightened self-interest, the greatest menace to the future of modern advertising is the fraudulent advertisement.

The claims on the part of the advertising department of *Lippincott's* that it dares not refuse to accept fraudulent advertisements because the advertiser might bring suit against it for refusing to accept his advertisement is a statement whose falsity is exceeded only by its silliness. Equally preposterous is the statement that *Lippincott's* will willingly refuse to accept fraudulent advertisements provided the American Medical Association will guarantee to protect the Lippincott Company against loss from damage suits that may be brought by the exploiters of the frauds whose advertisements are refused.

It may be news to *Lippincott's* to learn that there are a score and more of newspapers and magazines that are accepting the findings of the American Medical Association on medical frauds and rejecting advertisements of such frauds. There are many newspapers that send us the medical advertising "copy" submitted to them and ask for an opinion on it. When that opinion is unfavorable, these papers refuse such advertisements. This is being done daily. We have yet to hear of any "patent medicine" faker or quack even threatening to bring suit because his advertisements have been rejected.

The advertising department of *Lippincott's* may therefore take heart. When an advertisement of an outrageous fake like the Oxydonor is submitted to it, instead of accepting the money for it, meantime muttering an inaudible protest at the unfortunate position in which it has been placed, it may look the fraud in the eye and say Boo! The faker will not bite.

Before leaving the subject, we are constrained to refer to Lippincott's medical publication, the *Annals of Surgery*. We begin to realize now why that journal offers a welcome haven to such products as Sal Hepatica, Bromidia, Papine, Gray's Glycerin Tonic, Fellows' Syrup of Hypophosphites, et al. Presumably the same "custom" obtains in the acceptance of advertising for the *Annals of Surgery* as for *Lippincott's*, namely that the Lippincott Company does "not verify the claims of advertisers." Possibly the *Annals of Surgery* is afraid that, should it reject the Sal Hepatica advertisement, for instance, it might be haled into court! Let us trust, for

their peace of mind, that the publishers of the *Annals of Surgery* do not receive an advertisement from Old Doc Hartman for a full page display of Peruna. The mental anguish they would undergo in reluctantly accepting this advertisement—under the fear that Hartman would “claim damages” if it were rejected—is painful to contemplate.—(*From The Journal A. M. A., Feb. 7, 1914.*)

MEDICAL JOURNAL ADVERTISING

And Methods of Obtaining Paid-Up Subscribers

Time was when the postal authorities were lenient with publishers. The names of individuals who had ever subscribed for publications of a certain class were carried on the books indefinitely, whether they paid their subscriptions or not. This permitted a padding of the circulation figures. Of late years, however, the postoffice department requires publishers to have bona-fide paid-up subscriptions if they wish their publications to be carried at the low second-class rate. Certain medical journals have been hard put to it to get a circulation that would be at all attractive to the advertisers, on whose money they depend for continued existence.

Many and various have been the schemes devised whereby the dwindled circulation might be “boosted.” Subscriptions could not be given away because the postal laws forbade it. One ingenious method of obviating this difficulty is worked in this fashion: Dr. John Doe writes an article that appears in a reputable medical journal. A few days after its appearance, Dr. Doe receives a letter from the editor and publisher of a medical journal that is in need of a subscription list. He is told that the editor has read his article with much interest and would appreciate receiving from Dr. Doe a brief abstract of it. He does not expect the doctor to go to the trouble of making this abstract for nothing. He will, therefore, on receipt of the abstract credit Dr. Doe with three years’ subscription for himself or for one year for himself and one year for each of any other two doctors he may name. For every doctor that bites on this scheme the publisher increases his circulation by three copies and the federal officials are assured that they are paid-up subscriptions—not paid for in cash, it is true, but in “abstracts.”

All of this preliminary to a letter recently received:

To the Editor:—Enclosed find letter which speaks for itself. Now what I should like to know from you is the following: Is the *Charlotte Medical Journal* all it should be? Should a doctor contribute to a journal—thereby adding to its prestige and circulation—that carries questionable matter in the advertising pages? If the above journal is off color, does that act as a bar for good men to contribute?

Very truly yours,

L. J. GENELLA, M.D., New Orleans, La.

The letter which our correspondent encloses is on the stationery of the *Charlotte Medical Journal* and signed by the editor of that journal. Here it is:

"My Dear Doctor Genella:—I have just looked over an article of yours published in the *New Orleans Medical and Surgical Journal* entitled 'Clinical Studies in Pituitary Irritation, with Report of Case.' I would be very glad indeed to have you send me a manuscript of an article for the *Charlotte Medical Journal*. Your style of writing is very attractive.

"If you will send me an article for the journal, I will be glad to publish same and will place your name on my complimentary mailing list. Under separate cover I am sending you a copy of the journal.

"Of course I will expect the article to be typewritten."

Whether or not this is a modification of the "abstract" scheme or an attempt to boost the circulation of the *Charlotte Medical Journal* are questions we shall not attempt to answer. As to the questions propounded by our correspondent, they have been answered many times in these pages. We turn to one of the recent copies of the *Charlotte Medical Journal* and examine its advertising pages. On one of the first we find Anasarcin, a product whose fraudulent character was described at some length in THE JOURNAL, May 4 and 11, 1907. On another page we find Tongaline, which has also come in for a fair share of attention (see THE JOURNAL, Sept. 23, 1906, and May 10, 1913). A little farther over we find a half-page advertisement of Bannerman's Intravenous Solution, a nostrum first exploited as a "consumption cure" and now as a cure-all (see THE JOURNAL, May 31, 1913). Cactina Pillets (see THE JOURNAL, March 12, 1910), Hagee's Cordial of the Extract of Cod-Liver Oil (see THE JOURNAL, Oct. 13, 1906), Burnham's Soluble Iodin (see THE JOURNAL, March 28, 1908), Ecthol (see THE JOURNAL, March 13, 1909), Bromidia (see THE JOURNAL, April 21, 1906), Papine (see THE JOURNAL, April 29, 1911), Phenalgine—two advertisements (see THE JOURNAL, Jan. 13, and 27, 1906, and Jan. 27, 1912) and Sal Hepatica (see THE JOURNAL, March 26, 1910) are some more products which have attained unenviable notoriety but found a safe haven in the advertising pages of the *Charlotte Medical Journal*. Neither must we fail to refer to the advertisement of Duffy's Malt Whiskey (see THE JOURNAL, Nov. 23, 1912), which looks thoroughly at home.

Does our correspondent—in fact, does any conscientious physician having the interest of scientific medicine at heart—want to do anything that will tend to perpetuate therapeutic fraud? Subscribing for or contributing to medical journals whose income is largely derived from nostrums that are as vicious as many of the "patent medicines" advertised in the daily press hampers the medical profession in its fight for honesty in therapeutics and renders largely abortive its fight against fraudulent "patent medicines." So long as the

accredited organs of the medical profession tolerate fraudulent "ethical proprietaries" in their advertising pages, just so long will the protests of physicians against the swindling advertisements of "patent medicines" in the daily press fall largely on deaf ears—and justly so.—(From *The Journal A. M. A.*, Oct. 11, 1913.)

A Physician Places the Responsibility for Fraudulent Advertising Where It Belongs

"To the Editor:—THE JOURNAL has had much to say in recent years regarding the ethics, or lack of same, in advertising matter exploited by its contemporaries. It has been criticized by many for the stringency of its attack; it has been criticized by very few because it did not go far enough. Is it not about time to get to the root of the matter?

"In the last number [see p. 426, this book] dissatisfaction is expressed with the advertising policy of the *Medical Times*. Nothing finer! Go to it! But is the method of attack right? I have before me a sample copy of the *American Journal of Surgery*. Among other articles is one on diseases of joints and the bone marrow by a man very favorably known in Denver. He was 'ethical' enough to be accorded a place on the program in the Section on Medicine at Minneapolis. Another contributor from Baltimore remarks that he took a patient to the University Hospital. Can it be possible that Johns Hopkins is admitting men to its wards and clinics that are below par in professional morals? Another article appears from a well-known orthopedic man of Washington, D. C. Personally, I see very little to commend in the advertising columns of the *American Journal of Surgery*.

"I, who confess to a state bordering on youth, may be very wrong; but I believe that the trouble will be solved only when men who claim to have any professional distinction refuse to contribute to journals whose pages are not clean from cover to cover. Pardon the presumption, Mr. Editor, but were you ever tempted to print anything like this:

"Last week's issue of the *New York Medical Squall* contains an article on "Duodenal Ulcer" by John Doe, the well-known Chicago surgeon. Dr. Doe doubtless knows as well as any one the disreputable character of the *Squall's* advertising matter, but like most of our great men, is unable to restrain his appetite for journalistic publicity."

"Physicians read medical journals because they contain literature that is worth while. Jump on your erring editorial brethren, Mr. Editor, but please remember that the problem of eliminating bogus advertisements will be solved when the so-called leaders of our profession show enough manhood to refuse literary support to publications whose columns are in disrepute. While castigating the little sinner, please don't let the big sinner go scot free.

"CLINTON E. HARRIS, M.D., Grinnell, Iowa."

Dr. Harris sums up the situation correctly. No small degree of responsibility rests on the prominent members of the medical profession who lend their support either as sub-

scribers for or contributors to those medical journals whose advertising pages are a stench in the nostrils of thinking physicians. Dr. Harris asks why THE JOURNAL does not condemn the advertising columns of the *American Journal of Surgery*. THE JOURNAL has done so more than once and in no uncertain terms, both in the Propaganda department and editorially. At one time it said:

"In circular letters and in an editorial announcement in its December issue, the *American Journal of Surgery* 'features'—to use a newspaper term—some of the contributors to its January issue. The list comprises men who hold, or have held, high offices in the American Medical Association. Presidents, vice-presidents, chairmen, secretaries and members of sections of the Association—these are some of the men whose names appear as contributors to this nostrum-promoting publication. Is it any wonder that the proprietors of the *American Journal of Surgery* assume an attitude of indifference to the class of proprietary preparations which they admit to the pages of their publication?"

What was the result of THE JOURNAL thus directing the attention of its readers to the *American Journal of Surgery*? In the next issue of the *American Journal of Surgery* appeared a seven-column editorial tirade, entitled "An Unwarranted Attack on the President and Other Eminent Members of the American Medical Association and on the Leading Medical Journals of the Country."

On many and various occasions has THE JOURNAL called attention to the very evils that Dr. Harris deplores, and for the benefit of those who care to look up the matter these references to some of the articles are appended:

"The Mote and the Beam," editorial, Nov. 18, 1911.

"Activity or Passivity—Sympathy or Sacrifice," editorial, Dec. 9, 1911.

"Cui Bono," editorial, Dec. 16, 1911.

"Medical Journals and the Great American Fraud," Propaganda Department, Dec. 16, 1911.

"The Profession Must Apply the Penalty," editorial, Jan. 13, 1912.

"Fraudulent Advertising in High-Class Medical Journals," editorial, Jan. 4, 1913.

"Demand Clean Advertising," editorial, Jan. 4, 1913.

"Medical Journals and the Great American Fraud," editorial, Jan. 18, 1913.

"A Good Principle to Apply," editorial, May 13, 1913.

"Medical Journal Advertising," Propaganda Department, Oct. 11, 1913.

"Medical Journals and the Great American Fraud," Propaganda Department, Oct. 18, 1913.

"Medical Journals and the Great American Fraud," Propaganda Department, Nov. 1, 1913.

"The Medical Times' Advertisements," Propaganda Department, Nov. 8, 1913.

In another letter on the same subject its writer says: "I think the time has arrived when we have a right to expect real leadership from the 'big men' of the profession."—(*From The Journal A. M. A.*, Nov. 22, 1913.)

MEDICAL JOURNALS AND THE GREAT AMERICAN FRAUD

How the Medical Times Aids and Abets Quackery, with the Moral Support of Members of the Medical Profession

Two letters have been received, both from physicians. One comes from New York City and the other from Alexandria, Va. Each letter contained an advertisement of the Kellam Hospital, Richmond, Va., cut from the *Medical Times*. Here is the New York letter:

"To the Editor:—I am enclosing an advertisement clipped from the *Medical Times*. It seemed to me an especially flagrant example of what may happen in the absence of proper supervision of the

Medical Times


A Monthly Journal of Medicine, Surgery, and the Collateral Sciences

Vol. XII., No. 9
NEW YORK, SEPTEMBER, 1913
One Dollar a Year
Fifteen Cents a Copy

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Genito-Urinary Diseases



CANCER CURED AT THE KELLAM HOSPITAL

The record of the KELLAM HOSPITAL is without parallel in history, having cured to stay cured permanently, without the use of the Knife, Acids or X Ray, over 80 per cent of the many hundreds of sufferers from Cancer which it has treated during the past eighteen years. We have been endorsed by the Senate and Legislature of Virginia.

Physicians Treated Free

KELLAM HOSPITAL

WRITE FOR LITERATURE
1617 W. Main St.
RICHMOND, VA.

Fig. 1.—Photographic reproductions from the *Medical Times*. Do the gentlemen whose names appear in the list of the "Board of Contributing Editors" realize that they are lending an air of respectability to an otherwise disreputable business?

advertising pages of a medical magazine. The condition would seem all the worse in this instance as among the 'Board of Contributing Editors' are listed men like Howard Lilienthal of New York and Almuth C. Vandiver, who is Counsel for the Medical Society of the County of New York. The *Medical Times* is sent to two of the physicians who live at this address without charge and without solicitation. Many advertisements of proprietary preparations are inserted in type indistinguishable from that of the body of the magazine and it is of course possible that its financial backing comes entirely from the manufacturers of these drugs."


And this is from Virginia:

"To the Editor:—The statements made in the advertisement of the Kellam Hospital in the October number of the *Medical Times* are so out of the ordinary that I ask you to tell us something if you can of their institution and its methods of cure. Can such things as are stated in this advertisement be true? 'Physicians Treated Free?' 'Endorsed by the Senate and Legislature of Virginia?' What can all this mean to the sufferer from cancer? If true, let the whole world of sufferers know the glorious news."

Collier's paid its respects to the Kellam concern some time ago and we cannot do better than quote from its pages. Thus:

"Grief is the portion of the Kellam Cancer Hospital, of Richmond, Virginia, because in these editorials it has been

HARRY KELLAM, M. D.



KELLAM HOSPITAL

(INCORPORATED)

WE CURE WITHOUT THE USE OF KNIFE OR X-RAY

Cancer, Tumors and Chronic Sores

Richmond, Va. 2/27/11

ALL EXAMINATIONS FREE AT THE HOSPITAL

WE GUARANTEE OUR CURES.

CLAIM, we will pay all your expenses. If then you are not satisfied that we do all we can and see what we have done, and are doing.

P.M.,

North Syracuse, N.Y.

Dear Sir:—

We take the liberty of addressing you in regard to our Institution and enclose circular showing testimonials of a few of those whom we have cured.

Should you know any afflicted with cancer, tumor or chronic sore kindly send us their names by enclosed postal.

Thanking you in advance, we are,

Yours truly,

Kellam Hospital.

Fig. 2.—One way of drumming up trade in the "cancer cure" business! The Kellam Hospital sends letters like this to the postmasters of small towns asking these government officials to furnish it with what, in the parlance of quackery, is known as a "sucker list." A delightful business, isn't it? And this, gentlemen of the "Board of Contributing Editors," is the sort of thing to which you are lending your influence and good names!

grouped with other exemplars of the Great American Fraud. It offers the invariable and hollow mockery of testimonials and endorsements, which, as has been repeatedly shown, can be wheedled, browbeaten or bribed out of the victims of any form of quackery. It, of course, courts the fullest investigation, and desires that we send a representative to investigate whether its claims are not well founded. Unsuspected by the Messrs. Kellam, our representative has already investigated

their claims, notably their statement that they are endorsed by the Legislature of the State of Virginia. Upon request for a copy of the endorsement they forwarded a weak subterfuge, and finally, on pressure, admitted that they could not produce the proof they had boasted. For their further consideration we present a brief parallel:

FROM THE KELLAM CIRCULAR

The Cancer is removed without the use of the knife or X-Ray
No roots or fibers left;
hence it can not return.

FROM A KELLAM LETTER

We do not claim to "cure them all." We go further, and on our part, we agree to treat, free of charge, any patient who suffers a recurrence after having been treated by our method.

"The italics are our own, but we cheerfully present them for elucidation to the Kellam Hospital. A little careful thought devoted to reconciling the irreconcilable may help them to forget their wo. Meanwhile, they make themselves out worse than they really are by pretending to withhold from the bitter need of humanity a true, non-surgical cure for cancer. If this were true; if, indeed, they had solved the problem which has baffled the greatest minds of modern science; if, having a genuine cure for the dreadful ailment which claims its increasing thousands of tortured victims yearly, they secrete their discovery for the sake of a few paltry dollars, then they are as cold-hearted as the sailors who pass within fair hail of the naked island on which some shipwrecked crew is starving, and keep their stony eyes on the compass. They have not even the excuse of the fanatical among the Christian Scientists who, denying the existence of pain, refuse to take measures to ease the cancer victim's suffering even at the last. Human nature is seldom so callous."

As for the *Medical Times*: This publication for years contained comparatively little advertising. Then it came into the hands of Romaine Pierson, who also owns the *Practical Druggist*. Mr. Pierson is not a physician and to him the medical profession is but a commercial problem. He is publishing a medical journal for the money there is in it, and for this he is not to be censured. Questions of advertising policy, in such circumstances, are determined on a commercial basis. When an advertising contract is submitted, for a product that physicians would know to be fraudulent, the question that arises is, "Can it be put over?" Manifestly, a medical journal published purely as a business venture would not dare long to fly in the face of the opinions of those from whom it received its support—its subscribers and contributors. If our correspondents will go through the advertising columns of the *Medical Times* they will find many, many other frauds, less cruel perhaps than the Kellam advertisement, but no less disreputable or discreditable to the medical profession.

After all is said and done, it is enlightened public opinion that is causing publishers of lay magazines and newspapers to eliminate fraudulent "patent medicine" and quack advertisements. Until the medical profession takes an equally enlightened stand, physicians may expect to be afflicted with

such commercial medical journals as the *Medical Times*, the *International Journal of Surgery*, the *American Journal of Surgery*, *American Medicine*, and several other papers that are published primarily in the interest of the advertiser. When such journals as these find they cannot get a circulation among physicians so long as they carry advertisements similar to many now appearing in their pages, these advertisements will be eliminated, but not before. Many physicians are receiving such journals at a nominal price or, as one of our correspondents notes, free. The physician who permits such journals to come to his office must share with the paid subscribers the responsibility for the low standard of medical journalism.—(From the *Journal A. M. A.*, Oct. 18, 1913.)

Two Physicians Express Themselves on the Ethics of Medical Journalism

After the preceding article was in type, we received, in the same mail, two letters that are so apropos that we reproduce them. The first was from a town in Illinois, and was dated October 11. Here it is:

To the Editor:—About two weeks ago, a representative of the Surgery Publishing Company, New York, N. Y., came to ——— Ill. soliciting subscriptions for the *American Journal of Surgery*. Together with numerous others I subscribed—chiefly on the strength of the contributors whose articles appeared in the sample numbers shown by the agent.

Since receiving the first number (October) one look at the advertising pages has shown me why the subscription price for a year and a quarter is one dollar. Anasarcin, Tongaline, Cactina Pillets, Hagee's Cordial of Ext. Cod Liver, Burnham's Soluble Iodin, Papine, Phenalgine, Anusol, etc., etc.

I have written to the Surgery Publishing Company, telling them in no uncertain language that there is no room on my reading desk for such. Have you ever exposed this journal, and the attitude of our big, brilliant, eminent men in permitting their articles—presumably original—to fill space in such a journal? [Yes! THE JOURNAL, Dec. 16, 1911, pp. 2,000 and 2,013.] This letter is not for publication—at least not with name of city. Keep up the good work. . . .

The other, dated October 10, follows:

To the Editor:—That little story about medical journal advertising and methods of obtaining paid-up subscribers, in this week's JOURNAL makes me blush (p. 422, this book). I am guilty. Unlike Dr. Genella, I swallowed the bait—but the bait was even more tempting in my case; the flattering "editor" offered me twenty-five subscriptions to distribute among my friends, all for an "abstract." Thank goodness, I only accepted five subscriptions, but worse luck, I sent them to young men by preference. So I am a deep-dyed offender indeed. Extenuating circumstances affected my susceptibility somewhat, however. I have noticed that prominent men like Beverly Robinson, A. Rose, Tom A. Williams, Wayne Babcock, and Morris—the latter, at least, a really able man and a brilliant writer

—contribute to these peanut journals occasionally. If they do, why not I? There's nothing like being in big company, you know.

So far as I know, my "abstract" has not yet been published. On looking over the sample copy of this monthly I found an advertisement printed right in the list of contents—in fact, it was the second "original article" in the issue, as brave and respectable as you please! Then, with characteristic Hibernian impetuosity I got out my machine and pounded that editor a strong protest with a dire command not to use my "abstract" in his miserable organ. But I have never received the manuscript, nor any reply to my stern rebuke. I wish I had been cautious like Dr. Genella.

• WM. BRADY, M.D., Elmira, N. Y.

—(*From The Journal A. M. A., Oct. 18, 1913.*)

The Responsibility of Physicians

The responsibility of medical journals for the continued existence of at least a part of the "great American fraud," has been referred to in these pages many times. Within the past few weeks THE JOURNAL has called attention to the inconsistency of reputable physicians of high ideals lending their moral, and often financial, support to those medical journals whose advertising pages are a disgrace to the profession. Specifically, the *Medical Times*—originally a homeopathic medical journal—has been referred to, among others, as an example of this type of journalism. It must, however, be regarded simply as a type, for it is no better and no worse than many other medical journals. Several letters have been received on the subject, some of which we reproduce. The first one is from Dr. George G. Ross of Philadelphia:

"I was very much jarred on receiving the last issue of THE JOURNAL to find under the Propaganda for Reform an article concerning the *Medical Times*, among the list of whose contributing editors my name appears. I enclose you herewith a copy of my letter of resignation to the *Medical Times*. I have a very dim recollection of what occurred at the time that I was asked to give my name as a contributing editor. As I recollect it, however, at that time the journal was a respectable and ethical publication. I had been asked by a friend of mine to write an article giving my opinion of the effects of college athletics on undergraduates. This was at the time that Dr. Stokes had issued his order about athletics at Annapolis. I want personally to thank you and the committee for the exposure of this journal and for having drawn my attention to the fact that I was unwittingly aiding and abetting such a journal. I trust that if you have space in some future number of THE JOURNAL, you will do me the justice to publish all or part of this letter."

Because he feels that he has "unwittingly been put in an unfavorable light," Dr. James A. Babbitt, also of Philadelphia, sends THE JOURNAL a copy of a letter written by him to the editor of the *Medical Times*. Here it is:

"For reasons of which you are probably cognizant, I deem it advisable to resign from the board of contributing editors of the *Medical Times*, and desire that this resignation be accepted at once and my name not appear in further issues."

What shall be done, asks Dr. Sidney Thompson of Humboldt, Tennessee, in such cases as the following? Says Dr. Thompson:

"In the Propaganda for Reform, in *THE JOURNAL*, October 18, 1913, in closing your article on 'Medical Journals and the Great American Fraud,' you say: 'The physician who permits such journals to come to his office must share with the paid subscribers the responsibility for the low standard of medical journalism.' Now I agree with you in everything you have said about the *Medical Times*, but what I want to know is how to keep such journals from coming into your office. The *Medical Times* has been coming to me for a number of years with repeated duns for the subscription price. I have written to them several times that I did not want the journal and never expected to pay for it, but still it comes. I have a vague recollection that I bit at an offer to send it three or four months free, not knowing what it was, but I never authorized them to enter my name as a regular subscriber."

The simplest course in such a case as that described by Dr. Thompson, is to write on the unwelcome publication the word "refused" and either drop it in the nearest mail-box or hand it back to the postman. The courts have held that a person who continues to accept publications is legally liable for the payment of such publications. The postoffice department, however, has ruled that a magazine—either monthly or weekly—may not be sent at second-class rates for more than one year after the expiration of a bona fide subscription. At the expiration of that time, stamps must be affixed and the publications sent at third-class postal rates.—(*From The Journal A. M. A., Nov. 1, 1913.*)

Medical Journals and Sanatogen *

We have frequently referred to the inquiries that are received by this office from newspaper and magazine editors asking for information about products whose advertisements they have been offered. One of the greatest difficulties in the way of accomplishing the good that such inquiries otherwise might lead to is the lack of uniform action on the part of the medical press of the country. A specific instance may be given. A layman wrote to a high-glass weekly magazine published in New York City protesting against an advertisement of Sanatogen which the magazine was carrying, and sending a reprint of *THE JOURNAL*'s article on this product. The advertising manager of the magazine in question wrote back that he had seen *THE JOURNAL*'s article, but had sought further information regarding the preparation from the edi-

* See also Sanatogen, p 358.

tor of a medical journal in his city. The medical editor recommended that the magazine accept the Sanatogen advertisement, so the advertising manager said, and in view of this, the manager suggested that possibly the article published by the American Medical Association in its journal was inspired by some "personal prejudice." Giving weight to the probability that the advertising manager went for his information to a source that he knew would be favorable to the acceptance of the advertisement, the fact remains that it is a disgraceful state of affairs when editors of medical journals will give vicious advice in matters on which they are supposedly competent to pass. The probability is, of course, that the medical journal whose editor was questioned contained the self-same advertisement that the lay magazine was carrying. And the advertising manager of the magazine was willing to accept—because such information coincided with his wishes—information that on its face must be biased, and rejected advice—that did not meet his approval—because of a purely supposititious "personal prejudice." It is probably asking too much to expect advertising managers not to go to sources that are likely to be favorable for information about products whose advertisements are offered to them. But we have a right to expect that physicians, editors of medical journals, should no longer be *participes criminis* in the furtherance of the great American fraud. If our strictures on Sanatogen are unfair, if the Council on Pharmacy and Chemistry rejected the product in mere pique, if the opinions of such men as Billings, Cabot, Hektoen and Lusk are to be brushed aside as "personal prejudice," if this mixture of cottage cheese and glycerophosphates really is the marvelous product which its exploiters claim—then indeed not only have the editors of medical journals a right to praise it, but it is also their duty to proclaim these wounders in their editorial pages. If, on the other hand, this much-vaunted preparation is a very ordinary mixture sold at an extraordinary price, if indigent consumptives and others are being inveigled into spending dollars for a preparation whose food value could be duplicated for a few cents—then in the name of humanity and common decency let the editors of medical journals proclaim these facts, and not let their scientific judgment be blinded by the glitter of advertising contracts.—(Modified from *The Journal A. M. A.*, Jan. 18, 1913.)

THE ARMY AND NAVY MEDICAL RECORD

A Fraudulent Publication Whose Editorial Opinions Are for Sale

Whenever a business assumes certain proportions, subsidiary businesses spring up to cater to the needs of the larger enterprise. For some years the nostrum business has grown

so large that it has furnished a more or less precarious life for many individuals who have catered to it. There are, for instance, men whose trade it is to obtain testimonials; others, claiming a long string of imposing degrees, will furnish fake reports and bogus analyses; still others issue at irregular intervals publications with high-sounding names which sell editorial indorsement to the products of concerns such as are willing to pay the price asked. "Journals" of this type have been called to the attention of our readers at different times; the *New York Health Journal* and the *United States Health Reports* come to mind at this moment. Both of these had their day and died a natural death, as all such publications must when once the public is cognizant of their true character.

TWO LETTERS

More recently the attention of THE JOURNAL has been called to a publication calling itself the *Army and Navy Medical Record*. A physician in the South sends a letter he has received from the *Army and Navy Medical Record* reading as follows:

"We have had many favorable reports reach us relative to your most excellent institution, and, as you are doubtless aware, we come in direct contact with a large number of Army and Navy and other government attachés who have sons that they desire to provide with a medical education combined with the higher course included in your up-to-date laboratory methods and the sciences incidental to clinical medical practice.

"If you will regard the proposition as confidential, we will agree to carry a one-fourth page advertisement of your university at the nominal rate of \$38 per year, provided this amount is forwarded in advance at the time copy is furnished; and *we will further promise to editorially indorse and recommend your school and its methods without qualification or exception.* [Our italics.—Ed.] This article you should be able to use (and are authorized to do so) after publication for advertising purposes.

"We will also be able, and are willing, to furnish you with a desirable list of probable candidates from time to time.

"Kindly let us hear from you at once, if interested, and oblige,

"Yours with best wishes,

"THE ARMY AND NAVY MEDICAL RECORD,

"Arthur G. Lewis, Managing Editor."

The physician to whom this was addressed made a notation on the letter to the effect that "this looks crooked." A few weeks later, Dr. V. C. Vaughan, dean of the University of Michigan, Department of Medicine and Surgery, sent in a letter from the *Army and Navy Medical Record* which he had received in his official capacity at the university. Here is the letter; again the italics are ours:

"We are gratified to advise you that in our efforts to select a strictly ethical and high-grade institution of medicine that this magazine could consistently indorse and recommend, we have decided on the University of Michigan, Department of Medicine and Surgery, as the institution in your territory to whom our special publicity concession will be made this year.

"You are doubtless aware that we come in direct contact with a very large number of Army and Navy and other government attachés,

also physicians in private practice who have sons that they desire to provide with a medical education, combined with the higher courses included in your up-to-date methods.

"For personal reasons we are particularly anxious to favor your institution, and frankly believe that we can prove of material service to you. The special proposition, to be regarded by you as strictly confidential, is that we will publish a full one-half page announcement of your institution for the term of one year, you to merely pay a nominal expense charge of \$38 for the year's service. As our regular rate is \$125 per annum for this service, *the necessity of regarding the matter between ourselves is apparent.* [Transparently so.—Ed.] We further propose, without expense to you, to editorially indorse and recommend your institution and its methods without qualification or exception. An electrotype illustration may be used, without charge.

"It is important, however, that we hear from you promptly. Awaiting your immediate reply, we are, with best wishes,

"Yours faithfully,

"THE ARMY AND NAVY MEDICAL RECORD,

"Arthur G. Lewis, Managing Editor."

Dr. Vaughan, in forwarding the matter to THE JOURNAL, wrote that on receipt of the offer just given, he "was uncertain whether its writer was a knave or a fool." After inquiring into the matter somewhat thoroughly, he concluded that "the managing editor of the *Army and Navy Medical Record* is both a knave and a fool."

THE ARMY AND NAVY MAGAZINE

THE JOURNAL had the *Army and Navy Medical Record* under investigation before these two letters were received and, as a result, the following facts seem to be pretty well substantiated. Herbert C. Lewis, with his brother, Arthur G., conducted from Washington, D. C., a publication called the *Army and Navy Magazine*. In THE JOURNAL's nostrum file there is a booklet put out by the Renova Distributing Company describing the wonderful virtues of its product, "Anti-Jag," which, as its name might intimate, is a "liquor cure" of the fake variety. One page of this booklet is given over to what purports to be "A Letter from a Great Magazine Editor." The letter is dated June 19, 1900, from Washington, D. C., and says that "the editor of the *Army and Navy Magazine* takes pleasure in stating that from his own personal knowledge he has found 'Anti-Jag' to be one of the most reliable medicines ever introduced for the permanent cure of drunkenness." And more to the same effect. The letter is signed "Herbert C. Lewis, editor."

The publishing offices of the *Army and Navy Magazine* are at 606 F Street, N. W., Washington, D. C. The building at this address is known as the Baltic Building. Herbert C. Lewis is said to be a printer by trade.

The *Army and Navy Medical Record* seems to have been started within the last few months by Arthur G. Lewis. It does business from two addresses, the Baltic Building, Washington, D. C., and the Maple Villa Sanitarium, Hammonton, N. J. Lewis is said to have purchased the Maple Villa Sani-

tarium recently, but apparently his chief source of income is the *Army and Navy Medical Record*. He is alleged to have claimed that some medical officials of the government are interested with him in this publication but that these officials do not wish their names known. We do not blame them.

THE ONLY MEDICAL ARMY AND NAVY PUBLICATION.

PURE FOOD AND
DRUG BUREAU

DEPARTMENT OF
TRAINED NURSING

THE ARMY & NAVY MEDICAL RECORD

An International Bi-Monthly Review of Medical, Surgical and Dietetic Science, Devoted to the Interest of the Medical and Surgical Corps of the Army and Navy, Public Health Marine Hospital Service, and the Red Cross Society.

ARTHUR G. LEWIS
MANAGING EDITOR

PUBLICATION OFFICES
BALTIMORE BUILDING, WASHINGTON, D. C.

Editorial and Business Departments,
Maple Villa Sanitarium,
Hammonden, N. J.

August 16, 1913.

Dr. Victor C. Vaughan, Dean,
University of Michigan,
Department of Medicine and Surgery,
Ann Arbor, Michigan.

Dear Sir:-

We are gratified to advise you that in our efforts to select a strictly ethical and high-grade institution of medicine that this magazine could consistently indorse and recommend, we have decided upon the University of Michigan, Department of Medicine and Surgery, as the institution in your territory to whom our special publicity concession will be made this year.

You are doubtless aware that we come in direct contact with a very large number of Army and Navy and other Government attaches, also physicians in private practice, who have sons that they desire to provide with a medical education, combined with the higher courses included in your up-to-date methods.

For personal reasons, we are particularly anxious to favor your institution and frankly believe that we can prove of material service to you. The special proposition, to be regarded by you as strictly confidential, is that we will publish a full one-half page announcement of your institution for the term of one year, you to merely pay a nominal expense charge of \$38.00 for the years service. As our regular rate is \$125.00 per annum for this service, the necessity of regarding the matter between ourselves is apparent. We further propose, without expense to you, to editorially indorse and recommend your institution and its methods without qualification or exception. An electrotpe illustration may be used, without charge.

It is important, however, that we hear from you promptly. Awaiting your immediate reply, we are, with best wishes,
Yours faithfully,

THE ARMY AND NAVY MEDICAL RECORD.

Arthur G. Lewis
Managing Editor

AGL:R

P.S.—Sample page attached, showing size, for your information.

Photographic facsimile of a letter sent by the *Army and Navy Medical Record* to the dean of University of Michigan, Department of Medicine and Surgery, offering one hundred and twenty-five dollars' worth of advertising space for a "nominal" thirty-eight dollars—with editorial indorsements and recommendations thrown in for good measure!

ADVERTISEMENTS AS EDITORIALS

A glance through two issues of the *Army and Navy Medical Record* makes perfectly plain the character of the publication. The January-February, 1913, number leads off with articles by well-known medical officers in the Army, the

Navy and the Public Health Service. These have been copied from other publications. Then comes an editorial entitled "A Much Needed Dietary Reform," devoted to the laudation of "Postum," the widely advertised coffee substitute. Following this is an editorial on "The Philosophy of Hypnotics" in which aconitine, saline laxative and digitalin are each given a "boost." Then comes an "original article" (save the mark!) entitled "The Physiological Pathology of Consumption." This is by "Alfred S. Gubb, M.D., L.R.C.P., London, M.R.C.S., Eng., D.P.H., etc. etc., Aix-les-Bains, Savoie, France." Two pages are devoted to this. The "joker" appears in the third paragraphs from the end—Fellows' Syrup of Hypophosphites. Dioxogen receives more than three pages of editorial mention under the caption "The Sterilization of Milk with Dioxogen." Under "Another New Electrical Wonder—Magnified Sound," the "Acousticon" is given a two-and-a-quarter page write-up. "What Wise Men Wear" is the title of a four-page article—unsigned—devoted to the laudation of suspensories in general and the "O-P-C Suspensory" in particular. Dr. H. F. Boatman, Los Angeles, contributes a short article on "A Case of Advanced Pulmonic Tuberculosis Treated with Injections of Dioradin," while our good old friend Willard H. Morse, M.D., "F.S.Sc. (Lond.)," the champion fake-testimonial-giver of the country, writes more or less entertainingly on "Putting on a Mustard Plaster." The article has nothing to do with mustard plasters but has a good deal to do with "Zumota," a nostrum recommended as a substitute for the mustard plaster. These are but a few of the nostrums to which the editorial and reading pages of the *Army and Navy Medical Record* are devoted.

In the June-July issue, Arthur G. Lewis becomes bolder. The leading article is entitled "First Aid in the Navy," by C. F. Stokes, Surgeon-General, United States Navy. There is nothing to indicate that this article was not contributed to the *Army and Navy Medical Record* by its author. As a matter of fact, it originally appeared in an official publication, the *United States Naval Medical Bulletin* for January, 1913, and was reprinted by Lewis without credit and without permission. Following the article by Dr. Stokes is another, unsigned, entitled "The Passing of 'The Pie Habit.'" This describes the surprise of the students of Harvard University at being served breakfast cereals instead of pie at their noon-day meal and suggests that "Shredded Wheat Biscuits" make a "delicious dessert." A two-and-a-half page article on the "Danger of Corrosive Sublimate in Vaginal Douche" is reprinted from the *Lancet-Clinic* of September, 1903. The reason for resurrecting this ten-year-old article becomes apparent before one gets half through it. It deals not so much with the danger of corrosive sublimate as with the marvelous—alleged—properties of Tyree's Antiseptic Powder. Dr. Claude C. Keeler, Denver, has a three-page article on the

"Medical Treatment of Pulmonary Tuberculosis." The "medical treatment" referred to is Waterbury's Compound. An editorial entitled "One Notch Ahead of Morphin" is devoted to that vicious morphin solution sold under the proprietary name "Papine." Another on "The Treatment of Catarrh by Palliatives and Curatives" deals with a widely advertised "patent medicine," "Kondon's Catarrhal Jelly." What appears to be a contributed article by Charles Wardell Stiles of the United States Public Health Service on "Country Schools and Rural Sanitation" has really been "lifted" from an official publication without credit and, needless to say, without Dr. Stiles' permission.

But medicinal preparations are not the only things to which the *Army and Navy Medical Record* gives editorial indorsement. All advertising matter, apparently, is grist to its mill. Sandwiched in between articles on "Public Health Administrations" and "Important Army Medical Lectures" is a dissertation on "The Millennium of Shirt Construction," in which are sung the virtues of the tailless shirt! A little farther along the Hawaiian pineapple is extolled, while the last pages of the issue are devoted to various banking concerns.

In addition to the advertisements appearing throughout the reading and editorial pages of these two issues of the *Army and Navy Medical Record*, there are a number of display advertisements. There is no reason to suppose, at least in the majority of cases, that the advertisers had the slightest reason to suspect the nature of the *Army and Navy Medical Record*. Several pages are devoted to financial advertisements, there being more than forty banks that have "fallen for" the wiles of Arthur G. Lewis. In view of the letters received by the deans of medical colleges and other educational institutions, the display advertisements of schools and colleges have a special interest to physicians. Schools for girls, polytechnics, colleges of music, veterinary, dental and medical schools—all are to be found in this cosmopolitan publication.

Among the therapeutic products advertised—in the advertising pages—are:

Fellows' Syrup of Hypophosphites.....	1	cover page
Kondon's Catarrhal Jelly.....	$\frac{1}{2}$	page
Expurgo Anti-Diabetes	$\frac{1}{2}$	page
Laxol	$\frac{1}{2}$	page
Campho-Phénique	$\frac{1}{2}$	page
Palpebrine	$\frac{1}{2}$	page
Zumota	$\frac{1}{2}$	page
Sanmetto	$\frac{1}{4}$	page

While in the reading pages the following products are puffed:

Tyree's Antiseptic Powder.
Waterbury's Compound.
Papine.
Kondon's Catarrhal Jelly.
Ranier Natural Soap.
Iodia (Battle).

Creo-Derma.
Fellows' Syrup of Hypophosphites.
Tannalbin.
Expurgo Anti-Diabetes.
Zumota.
Sulfothen.

Dioxogen.
 Palpebrine.
 Bannerman's Intravenous Solu-
 tion.
 Daniel's Concentrated Tincture
 of Passiflora.
 Peacock's Bromides.

Aletris Cordial Rio.
 Gonosan.
 Digipuratum.
 Dioradin.
 Pepto-Fer.
 Lactol.
 Campho-Phénique.

Summed up: The *Army and Navy Medical Record* is but another of the parasites of quackery. It is not entered as second-class matter and it has probably no bona-fide circulation. While it is claimed to be "Devoted to the Interest of the Medical and Surgical Corps of the Army and Navy, the Public Health Marine Hospital Service and the Red Cross Society" it is actually devoted to none of these. It is devoted to the exploitation of the advertising public for the special financial benefit of the man who calls himself its editor—Arthur G. Lewis. Advertising contracts are obtained under false and fraudulent pretenses. In brief, Arthur G. Lewis is using the good name of the various medical services of the United States government to further his swindling operations. He has written letters to honorable physicians making dishonest and insulting propositions to deceive and defraud the public. Editorial indorsements of the *Army and Navy Medical Record* mean nothing except that money has been paid for them. In short, the *Army and Navy Medical Record* is a fraud, and its "editor," Arthur G. Lewis, a faker.—(From *The Journal A. M. A.*, Oct. 25, 1913.)

THE MEDICAL TIMES ADVERTISEMENTS

In Which Are Discussed Some "Oversights" and the Ethics of Journalism

Two or three weeks ago we published letters from two physicians calling attention to an advertisement of a "cancer cure" hospital appearing in the *Medical Times*. As a result of THE JOURNAL'S comments, some of the physicians who were listed as "contributing editors" of the *Medical Times* wrote that they had requested that their names be withdrawn from this list. In reply to at least some of these letters, the editor of the *Medical Times* wrote asking them to reconsider their decision and offering as an excuse the statement that the appearance of the "cancer cure" hospital advertisement was an oversight. In this connection the following letter from the *Medical Times*, addressed to THE JOURNAL of the American Medical Association, is pertinent:

"Gentlemen:—We note in your issue of October 18 an article calling attention to an advertisement which appears in the columns of this journal, and to which your editor rightly objects.

"The advertisement in the *Times* was the result of an oversight, and it will not reappear.

"While we are indebted to you for thus bringing the matter to our attention, we cannot but feel that a letter written to us would have been more in keeping with the ethics of journalism.

"Very truly yours,

THE MEDICAL TIMES."

It will be noticed that this letter, like the letters sent to other physicians, ignores altogether the most important point made by THE JOURNAL in its criticism of that publication's advertising policy. THE JOURNAL said in this connection:

"If our correspondents will go through the advertising columns of the *Medical Times* they will find many, many other frauds, less cruel perhaps than the Kellam advertisement, but no less disreputable or discreditable to the medical profession."

The *Medical Times* apologizes for the advertisement of the Kellam Cancer Cure Hospital but ignores altogether the fact that the hospital advertisement was but one of many equally discreditable. We turn to recent issues of the *Medical Times* and we find it fairly reeking with advertisements of proprietary preparations that are a disgrace to the medical profession, many of them having been repeatedly exposed in THE JOURNAL. We find, for instance, a quarter-page advertisement of the Expurgo Manufacturing Company. "Expurgo Anti-Diabetes," we are solemnly told in the pages of the *Medical Times* is:

"The only reliable and thoroughly tested remedy for the cure of Diabetes Mellitus and Insipidus."

This wretched fraud, which also is advertised in true "patent medicine" style direct to the public, is presented to a presumably intelligent profession as a "cure" for a disease which so far has baffled the best brains in the scientific world.

"Expurgo Lapis" we are told, also via the *Medical Times* is:

"The only known cure for gall-stones, kidney and bladder stones, gravel and all kidney trouble arising from uric-acid origin."

Did Kilmer's Swamp-Root ever claim more? "Diabetes is no longer an incurable disease" runs the advertisement of the Jireh Diabetic Food Company, yet the editor of the *Medical Times* must know that in THE JOURNAL¹ and in the reports of state chemists the Jireh diabetic foods have been shown time and again to be among the most dangerous and fraudulently exploited products sold to the unfortunate diabetic.

Phenalgine,² twin brother to the Antikamnia fraud, shouts its inferential falsehoods in a half-page display. Micajah's Wafers,³ the alum-borax mixture long advertised as a cure for gonorrhea, endometritis, etc., may also be found, as well as many other preparations exposed at various times by THE JOURNAL. For example: Anasarcin,⁴ Campho-Phenique,⁵

1. THE JOURNAL A. M. A., Dec. 14, 1912, March 22, 1913, and April 5, 1913; see also p. 451, this book.

2. Pages 10 and 335, this book.

3. Page 240, this book.

4. Page 11, this book.

5. Page 40, this book.

Papine,⁶ Bromidia,⁷ Cactina Pillets,⁸ Pluto Water,⁹ Prunoids,¹⁰ Sanatogen¹¹ and Sal Hepatica.¹²

What excuse can the *Medical Times* offer for the presence of these frauds in its pages? Are these, too, "the result of an oversight"? Presumably for thus bringing to its attention these various other disreputable advertisements, THE JOURNAL will be accused again of violating "the ethics of journalism." If calling attention to fraudulent advertisements is out of keeping with the ethics of journalism, what, pray, must be said of publications that are willing to share in the profits of such fraudulent exploitation? But, and we cannot repeat it too often, the *Medical Times* is but one of a class, neither worse nor better than many other medical journals whose financial support comes from the proprietary interests rather than from the medical profession. The responsibility for the existence of these journals really rests not on the business men who conduct them on a commercial basis, but on the physicians who tolerate or encourage them in any way. —(*From The Journal A. M. A., Nov. 8, 1913.*)

CAUSE FOR OPTIMISM

A Clean Medical Journal—the South Texas Medical Record

Fortunately, there are forces at work in the medical profession that make for optimism. An editorial in the last issue—April, 1915—of the *South Texas Medical Record*, the official organ of the South Texas District Medical Association, is especially significant. While not a large journal, the *South Texas Medical Record* could well stand as an example to medical publications of a much more pretentious character. Its advertising pages are above reproach and the journal is a credit alike to its editors and to those members of the profession whose support makes its existence possible. In the editorial referred to, entitled, "Honest Advertising—Let Us Cleanse Our Own Linen First," the editor-in-chief, Dr. W. Burton Thorning, says:

"A recent editorial, entitled 'Honest Advertising,' in a daily newspaper, furnished the occasion for an editorial comment in the January number of the *Southwestern Hospital Reporter*. The latter, while taking the ground that the newspaper was inconsistent in uttering high editorial sentiments

6. Page 330, this book.

7. *Nostrums and Quackery*, Ed. 2, p. 589; page 31, this book.

8. Page 36, this book.

9. THE JOURNAL, March 29, 1913, p. 1013.

10. Page 178, this book.

11. *Nostrums and Quackery*, Ed. 2, p. 470; page 358, this book.

12. *Nostrums and Quackery*, Ed. 2, p. 639; page 179, this book.

and in adjoining columns printing patent medicine advertisements, implied that newspaper men should be allowed some latitude in the matter of accepting advertising, on the plea of being laymen and therefore not expected to possess the same amount of information concerning patent 'dope' that medical men have.

"It would appear to be a fair assumption that a layman, even though a highly educated and able editor of a great newspaper, does not know, and cannot be expected to know, the depth of depravity to which the consumption cure faker and the cancer quack can descend.

"Granting that the newspaper man accepts the advertisements through ignorance of the facts concerning their possibilities for evil, what can be offered in defense of the medical editor who accepts advertising matter equally pernicious in its influence?

"Indeed, it is not so many years since many of the so-called ethical medical journals carried the ads of some of the most notorious quacks this country has ever known.

"Doubtless there are few, if any, who do so at the present time, but, on the other hand, there are only a few who do not advertise unethical institutions, and questionable proprietary medicines. As a matter of fact some of the most widely advertised patent medicines of today were formerly advertised as ethical proprietaries in medical periodicals, the great majority of which are still serving as a sort of preparatory school for advertisements that will presently appear in the lay press.

"What shall be offered in defense of the medical publication which continues to publish the advertising matter of hundreds of proprietaries which the Council on Pharmacy and Chemistry of the American Medical Association has shown to be either generally worthless or an out and out fake?

"Can the medical editor plead ignorance? Hardly. To do so would be to admit utter incapacity. There is only one inference to be drawn; the publication needs the money and is not overparticular regarding its source.

"There is a remedy, however, a remedy absolutely certain in its results. If every physician in the United States for a period of three months would positively refuse to receive at his desk a medical journal containing questionable advertising, this blotch on medical journalism could be erased.

"It is true that many of them would sink, never to rise again, but the profession would be better off without those whose existence depends upon 'phoney' advertising. There are, unfortunately, several American journals whose reading pages are well and carefully edited and a credit to medical literature, whose advertising pages carry such undesirable matter that the educated physician can only feel a sense of disgust.

"Such journals could very well succeed on the quality of their reading matter and undoubtedly would increase their circulation enough to more than offset the loss in advertising."—(*From The Journal A. M. A., May 29, 1915.*)

THE COMPARATIVE NUTRIENT VALUE OF COD LIVER OIL AND COD LIVER OIL CORDIALS*

John Phillips Street, M.S.

Chemist, Connecticut Agricultural Experiment Station

NEW HAVEN, CONN.

For a long time cod liver oil has been recognized as an easily assimilable nutrient and reconstructive and of special value in wasting diseases. The unpalatability of the oil, however, has led to various devices to make it tasteless or to render it more acceptable to the stomach. Emulsions containing the oil in mixture with other substances were exploited, and doubtless served a useful purpose. The oil, however, but imperfectly concealed, was still disagreeable to many, and other preparations began to appear on the market, which claimed to retain the therapeutic virtues of cod liver oil without its disagreeable characteristics. This practice has been carried so far that now we find for sale cod liver oil preparations from which the oil has been removed in its entirety, and only the name remains. Certain of these products claim to "represent" the oil and to retain all its virtues; others are said to contain oil, while still others claim "all the valuable constituents" of the oil without the oil itself.

In the past, cod liver oil has been considered a food rather than a medicine, and its value attributed to the easily digestible and metabolizable oil it contains. This position, however, has been disputed. By some its therapeutic value has been attributed to the small amount of iodine present in the oil, but in recent years the suggestion has been made that its special potency depends on its peculiar fatty acids. In this connection the U. S. Dispensatory¹ says:

"Other oleaginous substances, certainly not less nutritious, have not been equally efficient, though taken in much larger quantities. If this be the true explanation, persons living chiefly on milk, which abounds in oil, or on fat pork, ought to show a special exemption from scrofulous complaints. The probability appears to us to be that, in consequence of some peculiar principle or principles it contains, it exercises a stimulant and alterative influence on the processes of assimilation and nutrition, thereby aiding in the production of healthy tissue."

Indeed, Osborne and Mendel² have shown in their experiments on albino rats that by substituting cod liver oil for a portion of the lard in their standard diets, growth was resumed after failure on foods containing commercial lard

* See also reports on Hagee's Cordial, pp. 51, 289; Wampole's Preparation, pp. 52, 442, and Waterbury's Compound, pp. 54, 57, 291.

1. U. S. Dispensatory, Ed. 19, p. 860.

2. Osborne, T. B., and Mendel, L. B.: Jour. Biol. Chem., 1914, xvii, 401.

alone as the source of fat. Similar results were secured with butter-fat and egg yolk fat.

In the light of the theories advanced for the therapeutic value of cod liver oil, and the results secured by Osborne and Mendel with the oil itself; it seemed a profitable study to examine some of the prominent "oilless" preparations on the market to determine whether or not the claims made for them as nutrients were justified. Certain of the so-called cod liver oil preparations are termed "extracts" of cod liver oil, and are not made from the oil, but from the cod livers instead. As has been well said,³ "They are preparations, which, if honestly made, might be worthy of trial, but they are improperly called 'extracts' of cod liver oil, since they do not contain the fat, which is the active constituent of the oil, but the extractives from the liver, which may or may not possess therapeutic virtues. So far as we know, however, no satisfactory evidence is forthcoming to indicate that such extractives have any therapeutic value."

It was with preparations of this class that our experiments were made. Four of the more extensively advertised brands were selected, as they represent rather distinct types of this class of products, as the following claims of their label will show:

Hagee's Cordial of the Extract of Cod Liver Oil, Compound.—"Tonic, stimulant, alterative, reconstructive, nutritive and digestive." "Each fluid ounce represents the extract obtainable from $\frac{1}{3}$ fluid ounce of cod liver oil (the fatty portion being eliminated), 6 grs. calcium hypophosphite, 3 grs. sodium hypophosphite, $\frac{1}{2}$ gr. salicylic acid (made from oil wintergreen), with glycerin and aromatics."

Vinol.—"The modern tonic reconstructor containing the medicinal extractives of fresh cod livers with peptonate of iron." "When the blood is poor, when more fresh blood is needed, when the weak need strength, when the throat and lungs are affected, TAKE VINOL."

Wampole's Perfected and Tasteless Preparation of an Extract of Cod Liver.—"Contains a solution of an extractive obtainable from fresh cod livers, the oily or fatty portion being afterward eliminated. This extractive is combined with liquid extract of malt, fluid extract of wild cherry and compound syrup of hypophosphites (containing calcium, sodium, potassium, iron, manganese, quinine and strychnine)."

Waterbury's Compound, Plain.—"Made from cod liver oil, digestive ferments, malt extract unfermented, hypophosphites comp. special, ext. cherry, eucalyptus, aromatics, etc."

Thus we have represented in our experiments an "extract" with hypophosphites, one with peptonate of iron, one with malt extract and hypophosphites and the alkaloids quinin and strychnin, and one with malt extract and hypophosphites without alkaloids.

In order to prepare a dry ration of suitable keeping properties, it was necessary to remove the alcohol and water from

3. Fraud and Deception Connected with So-Called Cod Liver Oil Preparations, THE JOURNAL A. M. A., Oct. 13, 1906, p. 1207.

the various preparations. This was done by evaporation under reduced pressure at from 40 to 55 C. (104 to 131 F.). In the case of Hagee's Cordial it was claimed that one fluid-ounce of the preparation represented $\frac{1}{3}$ fluidounce of cod liver oil, and in the subsequent substitution for cod liver oil in our rations, this ratio was used for all four products.

. . . These are very dissimilar preparations, the alcohol ranging from 7.50 to 18.69 per cent., the extract from 8.72 to 39.53 per cent. (10.81 of the 13.18 gm. of extract in Hagee's Cordial being glycerin), the ash from 0.305 to 1.967 per cent., the reducing sugars from 1.35 to 17.10 per cent., and the glycerin from a trace to 10.81 per cent. Wampole's contained quinin and strychnin, the others no alkaloids; salicylates were present in all but Wampole's; saccharin in Hagee's. The Pettenkoffer test for biliary acids gave a negative result in Hagee's and Wampole's; in Vinol and Waterbury's, small amounts of fatty acids were obtained, amounting to 0.016 and 0.032 gm. per hundred c.c., respectively, quite insignificant amounts.

The feeding experiments were made on albino rats of both sexes, which were placed, when about 6 weeks old, on a standard ration, No. 7, and after several months, when a failure to maintain weight was indicated,⁴ an amount of dealcoholized cordial extract equivalent to 18 per cent. of cod liver oil was substituted for a portion of the lard, the cordial extract later being replaced by an equivalent amount of cod liver oil.

* * * * * * *

SUMMARY

Table 11 gives a summary of the actual gains of the fifteen rats on the four rations, compared with the gains shown by

TABLE 11.—SUMMARY OF RESULTS *

Rations	Total Normal Gain, Gm.	Total Actual Gain, Gm.	Average Normal Gain, Gm.	Average Actual Gain, Gm.
Hagee ration	24	-36.2	5	-9.1
Cod liver oil ration.....	114	156.4	28.5	39.1
Vinol ration	42	-1.5	10.5	-0.4
Cod liver oil ration.....	42	87.5	10.5	21.9
Wampole ration	83	51.4	20.8	12.9
Cod liver oil ration.....	62	81.5	15.5	20.4
Waterbury ration	32	0.3	10.7	0.1
Cod liver oil ration.....	42	87.4	14	29.1

* In this table are given the totals and averages of the figures already presented in Tables 4, 6, 8 and 10.

4. Osborne and Mendel have shown (Jour. Biol. Chem., 1913, xv, 311) that mixtures of purified protein, lard, starch and protein-free milk have been singularly efficient for a time in promoting growth of young rats. In from sixty to 100 days or more, however, normal growth stops; the animals may remain at constant weight for a few days, or grow very slowly, and then suddenly decline and die unless a change is made in the diet. The substitution of butter-fat, egg yolk fat, or cod liver oil for a portion of the lard in the ration, in the experiments of these authorities, brought prompt recovery and continuation of normal growth.

cod liver oil and those shown by normal rats at the same period of their life history.

In considering the effect of these preparations as general medicines, their alcohol content must not be overlooked. Hagee's Cordial contains 7.50 per cent. of alcohol by volume, Vinol 18.60 per cent., Wampole's Preparation 16.59 per cent., and Waterbury's Compound 11.25 per cent. Full strength whisky contains 50 per cent. of alcohol by volume. By following the doses prescribed by the manufacturers of these preparations, the user would consume daily the following equivalents of full strength whisky:

In Hagee's Cordial.....	0.24	fluidounce
In Vinol	0.8	fluidounce
In Wampole's Preparation.....	0.7	fluidounce
In Waterbury's Compound.....	0.6	fluidounce

These amounts of alcohol are by no means negligible and doubtless explain to a considerable extent the source of the alleged tonic virtues of these preparations.

The results of the experiments may be summarized as follows:

Hagee's Cordial failed to sustain rats during periods of seven and fourteen days, the rats showing a loss in weight of 36.2 gm., instead of the normal gain of 24 gm.

Vinol in two cases sustained and in two cases failed to sustain growth during periods of from eleven to thirty-five days, the net loss in weight of the four rats being 1.5 gm., instead of the normal gain of 42 gm.

Wampole's Preparation in three cases sustained and in one case promoted growth in rats during periods of eighteen and thirty-nine days, showing, however, only 51.4 gm. gain in weight instead of the normal 83 gm.

Waterbury's Compound in two cases sustained and in one case failed to sustain rats during periods of fourteen and thirty days, the net gain in weight, however, being but 0.3 gm. instead of the normal 32 gm.

Cod liver oil showed a gain of 42.4 gm. over the normal, while with the same rats Hagee's Cordial showed a loss of 60.2 gm. Cod liver oil showed a gain of 45.5 gm. over the normal, while with the same rats Vinol showed a net loss of 43.5 gm. Cod liver oil showed a gain of 19.5 gm. over the normal, while with the same rats Wampole's Preparation showed a loss of 31.6 gm. Cod liver oil showed a gain of 45.4 gm. over the normal, while with the same rats Waterbury's Compound showed a net loss of 31.7 gm.

Not only did cod liver oil show a marked superiority as a source of nutriment over Hagee's Cordial, Vinol, Wampole's Preparation and Waterbury's Compound, but it also showed a remarkable reconstructive and recuperative power in its ability to enable rats to gain weight rapidly and steadily after having suffered from a deficiency in nutriment when fed the four preparations named above.—(Abbreviated from The Journal A. M. A., Feb. 20, 1915.)

DIABETIC FOODS OFFERED FOR SALE IN THE UNITED STATES

A Preliminary Report

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NEW HAVEN, CONN.

Recent references in *THE JOURNAL* to gluten flours and certain other foods offered for the use of diabetics suggest that a preliminary report of an investigation just about completed in my laboratory by Prof. L. B. Mendel and myself might be useful to many diabetics and to physicians who are called on to arrange their dietaries.

In 1906 this laboratory, then under the direction of Dr. A. L. Winton, who is now with the Department of Agriculture, made its first examination of commercial diabetic foods. In nearly every year since it has analyzed various other brands as they appeared on the market. The demand for the reports on these foods and the many inquiries directed to us have led us to make a more extensive review of the situation, and to collect as far as possible all information as to the quality of the so-called "diabetic" foods offered to the American public. That the present state of the market is unsatisfactory is well known, and the inferiority (from the diabetic's point of view) of many of the products at present offered is unfortunately familiar to all careful dietitians. The most dangerous feature of the present situation is that the unsuspecting patient is led to purchase foods, generally at an exorbitant price, which are not only misrepresented but which may be positively harmful to him. In this day of self-medication this condition is all the greater menace to the diabetic.

Without any attempt to suggest methods of treatment for diabetes, which is the province of the physician, I may say that it is well recognized that diabetes is primarily a disturbance of nutrition, in which the normal ability of the body to make use of carbohydrates is more or less completely impaired. All recent authorities agree in placing the chief emphasis on the rôle of diet in the management of this disease. Janeway, Benedict, Joslin, Fitcher, Faltz, Strauss, von Noorden and other writers on diabetes could be quoted at length in support of this view. The importance of a restriction of the carbohydrates in certain cases and certain aspects of diabetes is admitted by practically all competent authorities. In order to prescribe a starch-free and sugar-free dietary, which at times is necessary, and to know accurately the actual amount of these carbohydrates contained in the various available foods, the physician must rely on the cooperation of the chemist to furnish this

requisite information. This is our excuse, if any be needed, for our present investigation.

There seems to be some uncertainty as to what sort of preparation is entitled to be sold as a "diabetic" food. Granting the desirability of feeding the patient all the carbohydrate he can tolerate, and recognizing the possible value of the oatmeal, potato, rice and other treatments, in which a relative abundance of carbohydrate is fed for a limited period, it would seem that a low percentage of carbohydrates should be a requisite for a "diabetic" food. Certainly no special food containing nearly as much carbohydrate as a normal food of the same class should be entitled to this appellation. Flours, breads, biscuits, chocolates, breakfast-foods, macaroni, etc., containing only a slightly lowered percentage of carbohydrates, are no more entitled to be called "diabetic" foods than the normal foods themselves. It is true that, when a patient's carbohydrate tolerance is well established, the use of foods containing 20, 25 and even 35 per cent. of carbohydrates might be permissible, when used under the direction of a competent physician; but when a strict diet is necessary, such as is required to determine this tolerance, even these relatively low percentages are objectionable, if not dangerous.

It has been our purpose to include in this investigation, as nearly as possible, all available data on the composition of all diabetic foods sold in America. Our report, therefore, will be in part compiled, but in greater part will consist of our original analyses. It will show 539 analyses of about 400 brands, 200 of which are our own new analyses and 110 those made in this laboratory in previous years.

While the purpose of this preliminary note is to call attention to the better preparations rather than to emphasize those which are obviously objectionable and fraudulent, it may not be out of place to summarize briefly our findings in general. The full details of the investigation are now being prepared for publication and will shortly be issued as a report from the Connecticut Agricultural Experiment Station.

One hundred and eight samples of sixty-eight brands of flours and meals are included in the report. Sixty-seven of these were sold as "gluten" flours, twenty of which did not even satisfy the low government standard of 35 per cent. protein. Twelve samples contained less than 13 per cent. carbohydrates, while the remaining gluten flours ranged from 28 to 76 per cent.

The soy bean flours contained from 23 to 26 per cent. of carbohydrates, the almond meals 17 per cent., and a cotton-seed flour 21 per cent. Other "diabetic" flours, not specifically sold as "gluten" flours, contained from 67 to 80 per cent.

The purchaser of gluten flours at the present time may obtain preparations containing from 87 to 11 per cent. of

protein and from 4 to 76 per cent. of carbohydrates, at a cost of from 9 cents to \$1.56 per pound.

In view of the government's low standard for gluten flour, and because of the wide variations in composition found in the brands at present on the market, proper protection of the diabetic demands that the manufacturers of these flours should be required to state on the label the guaranteed percentages of both protein and carbohydrates.

Three samples of American soft gluten breads contained from 35 to 37 per cent. of carbohydrates; two other brands contained 49 and 54 per cent., little, if any, lower than found in ordinary wheat bread.

One hundred and forty-eight analyses of 112 brands of hard breads, biscuits, rusks, cakes and other bakery products are included. Eight brands of *Luftbrot*, or aerated bread, are reported; two of these contained from 9 to 12 per cent. of carbohydrates, one 20 per cent., two from 31 to 33, and the other three from 44 to 54 per cent.

A number of the brands of rolls, biscuits, breads, etc., showed satisfactorily low percentages of carbohydrates, thirty-five samples containing from 1 to 25 per cent., forty-four samples containing from 35 to 55 per cent., and forty-one over 55 per cent., seven of the latter exceeding 72 per cent.

The cost of the *Luft* breads ranged from 71 cents to \$2.33 per pound. Biscuits, containing 11 per cent. or less of carbohydrates, cost from 72 cents to \$3 per pound. A number of brands, containing from 43 to 77 per cent., cost from \$3 to \$3.60 per pound. Even the cheaper preparations, containing from 50 to 77 per cent., no better, and in some cases even worse, for the diabetic's use than ordinary bread, cost from 30 to 41 cents per pound.

Fourteen samples of breakfast-foods were analyzed, five of which contained from 44 to 54 per cent. of carbohydrates, somewhat lower percentages than normal. Seven of the ten brands of recommended macaroni, noodles, etc., contained over 70 per cent. of carbohydrates, the other three from 42 to 51 per cent.

The analyses are given of fourteen samples of peanut butter, five of almond paste and butter, two of pine-nuts, one of almonds and ten of miscellaneous nut foods. As was to be expected, most of these preparations proved to be suitable diabetic foods. The peanut butters contained from 12 to 20 per cent. of carbohydrates, with an average of 15 per cent. The three almond pastes contained from 30 to 40 per cent., one showing an addition of 11 per cent. cornstarch. The two almond butters contained only 7 and 8 per cent., the pine-nuts from 3 to 8 per cent., and the almonds 16 per cent. The other nut preparations contained from 6 to 44 per cent. carbohydrates.

Seven brands of diabetic chocolates contained from 10 to 50 per cent. carbohydrates, while four cocoas contained from 21 to 51 per cent. The chocolates cost from \$1.63 to \$2.06 per pound, and the cocoas were similarly expensive.

Two sugar-free milks were examined which were true to name, containing only the merest traces of carbohydrates. One "diabetic" baking-powder examined contained no starch, another brand from 14 to 16 per cent. Various jams, preserves and other fruit products were examined which contained from 1.24 to 7 per cent. of invert sugar, percentages far below the normal. A currant-juice contained only 0.85 per cent. of invert sugar. Four of the fruit preparations were artificially colored with a coal-tar dye—a permitted color to be sure, but seemingly quite out of place in foods intended primarily for the use of invalids.

As already stated, the main purpose of this investigation was not so much to detect fraud as to secure information which would be of benefit to the diabetic and to the physician who seeks foods suitable for a low carbohydrate diet. In the accompanying tabulations a summary is given of the brands, *sold as diabetic foods*, which showed less than 35 per cent. of carbohydrates, arranged in the order of their carbohydrate¹ content. A date in parentheses following a brand name signifies that the brand named showed variations in different years; in other cases, in which the agreement was close, the results have been averaged.

BRANDS SHOWING UNDER 5 PER CENT. OF CARBOHYDRATES

	Per Cent.
Casoid Baking Powder.....	.0
Dr. Bouma Sugar-Free Fat-Milk.....	.0
Whiting's Sugar-Free Milk.....	.0
Rademann's Currant Juice "ohne Zucker".....	0.9
Kalaria Batons (1909).....	0.9
Glidine	1.0
Casoid Sugarless Marmalade.....	1.2
Casoid Sugarless Jam.....	1.5
Kalari Biscuit	1.7
Casoid Dinner Rolls.....	2.1
Casoid Flour	2.2
Jireh Dietetic Pine Nuts.....	3.4
Rademann's Preserved Fruits, "entzuckert".....	3.5
Kellogg's Protose	3.6
Barker's Gluten Food "A".....	4.1
Kellogg's Pine Nuts.....	4.2
Kellogg's 80 Per Cent. Gluten Biscuit.....	4.4
Bischof's Gluten Flour.....	5.0

BRANDS SHOWING FROM 5 TO 10 PER CENT. OF CARBOHYDRATES

	Per Cent.
Casoid Biscuits No. 2.....	5.6
Rademann's Preserved Fruits "in eigenen Saft".....	5.7
Barker's Gluten Food "B".....	5.9
Kellogg's Nuttolene	6.3
Nashville Sanitarium Nutcysa.....	6.3
Huntley and Palmer's Akoll Biscuit.....	6.5

1. In the tables "carbohydrates" is used as synonymous with "nitrogen-free extract."

Nashville Sanitarium Nutfoda.....	6.8
Rademann's Preserved Fruits "ohne Zucker"....	7.0
Muller's Tomatoes für Diabetiker.....	7.3
Barker's Gluten Food "C".....	7.7
Kalari Batons (1913).....	7.7
Casoid Biscuits No. 3.....	7.8
Kellogg's 80 Per Cent. Gluten (1912).....	7.9
Casoid Biscuits No. 1.....	8.0
Kellogg's Almond Butter.....	8.2
Fromm's Uni Bread.....	9.0
Metcalf's Vegetable Gluten (1913).....	9.8

BRANDS SHOWING FROM 10 TO 15 PER CENT. OF CARBOHYDRATES

	Per Cent.
Kellogg's Pure Gluten Biscuit (1906).....	10.2
Health Food Pure Washed Gluten Flour (1913)...	11.1
Health Food Alpha Diabetic Wafers.....	11.3
Loeb's Imported Gluten Flour.....	11.8
Health Food No. 1 Proto Puffs.....	11.9
Kellogg's Potato Gluten Biscuit (1906, 1909)...	11.9
Kellogg's Nut Meal.....	12.1
Kellogg's 80 Per Cent. Gluten (1909).....	12.5
Nashville Sanitarium Nut Butter.....	13.0
Kellogg's Nut Butter.....	13.9
Bischof's Diabetic Gluten Bread.....	14.3
Jireh Diabetic Baking Powder.....	15.0
Peanut Butter (range from 12 to 20).....	15.0

BRANDS SHOWING FROM 15 TO 20 PER CENT. OF CARBOHYDRATES

	Per Cent.
Casoid Chocolate Almonds.....	16.1
California Paper Shell Almonds.....	16.3
Callard's Coconut Biscuit.....	16.4
Rademann's Diabetiker-Chokolade	16.9
Health Food Almond Meal.....	16.9
Callard's Ginger Biscuit.....	18.1
Callard's Prolactic Biscuit.....	19.3

BRANDS SHOWING FROM 20 TO 25 PER CENT. OF CARBOHYDRATES

	Per Cent.
Callard's Almond Shortbreads.....	20.7
Callard's Casoid Rusks.....	20.8
Rademann's Diabetiker-Makronen	20.8
Health Food Protosoy Diabetic Wafers.....	21.2
Jireh Patent Cotton-Seed Flour.....	21.3
Casoid Lunch Biscuit.....	21.6
Rademann's Diabetiker-Chokolade Biscuit.....	21.9
Cereo Soy Bean Gruel Flour.....	23.7
Health Food Salvia Sticks.....	24.0
Health Food Protosoy Soy Flour.....	24.5
Metcalf's Soja Bean Meal.....	25.0

BRANDS SHOWING FROM 25 TO 35 PER CENT. OF CARBOHYDRATES

	Per Cent.
Jireh Soja Bean Meal.....	25.8
Brusson Chocolat with Added Gluten.....	26.4
Rademann's Diabetiker-Stangen.....	27.0
Rademann's Diabetiker-Dessert-Gebäck	27.5
Nashville Sanitarium Malted Nut Food.....	27.5
Metcalf's Vegetable Gluten (1906).....	28.1
Health Food Pure Washed Gluten Flour (1906)...	29.5
Fromm's Luft Bread.....	30.7
Spencer's Almond Paste.....	31.6
Fromm's Conglutin-Diabetiker-Schokolade.....	32.7
Health Food No. 2 Proto Puffs.....	33.3
Ferbuson Gluten Bread.....	33.6
Gum Gluten Breakfast Food.....	34.2

—(From The Journal A. M. A., June 28, 1913.)

THE JIREH DIABETIC FOOD COMPANY

The Company Rises to Explain in a Brief Note of One Thousand Words

Exploiters of fraudulent and dangerous pharmaceutical products have no love for *THE JOURNAL*. When such products are exposed in these pages, their manufacturers seldom reply to the criticisms except through indirect channels. Then the replies are frequently replete with billingsgate and denunciation of *THE JOURNAL* and its editor, the Association and the medical profession generally.

We have, at different times, had to call the attention of the public and the medical profession to the fraudulence and dangers of some of the products of the Jireh Diabetic Food Company. We have shown that the Jireh company lied boldly and directly so long as it could do so without getting into the courts, and that it lies inferentially still; we have shown that Jireh flour had practically as much carbohydrate as ordinary flour; we have shown that, probably to escape prosecution under the Food and Drugs Act, the Jireh concern has coined the word "diatetic" and substituted it for the word "diabetic," which used to appear in its advertisements; we have shown that the claim made for the Jireh products that they are "starch-changed" was a false one, and that the company has modified this to "starch-treated," presumably to avoid being haled into the courts under the "pure food law;" we have shown, in short, the unreliability both of the Jireh concern and of its products.

Two or three weeks ago a New York physician wrote to *THE JOURNAL* for information regarding the Jireh products. We sent him such matter as had been published on the subject, and he showed this material to a patient who was using the Jireh products. The patient, in turn, expressed her opinion of the product to the retailer from whom she had been purchasing it. A day or two later she received a letter from the Jireh Diabetic Food Company, which, in spite of its length and discursiveness, we publish in full, so that physicians may know just what this company thinks of them. The letter, which is dated Nov. 20, 1913, really belongs in the "Knocks and Boosts" department, but its length prevents its use there. Here it is:

"We learned through Mess. Cushman Co. that you are a constant user of Jireh Foods for some time past, and that recently a certain derogatory statement was brought to your attention relative to our product. We feel an explanation is due you for two reasons.

"First, because we want you to continue using Jireh Foods and thus receive the benefits of the same; and second, that the remarks called to your attention are not only libelous, but are in no way pertinent enough to detract from the value of our product. In the first place, we want to state that

the particular journal in question has been endeavoring to injure our business for some time past and that we are not the only descent [*sic*] manufacturers of foods that are suffering in this way at the hands of the editors of this particular magazine. Since you are interested in the Jireh Foods, you may be more interested to learn why this particular magazine is so anxious to injure our reputation. The reason is very obvious if you will take into account the fact that this magazine is the official journal of the medical association of this country which is known as the backer of the medical trust. It is very clear to you, no doubt, that there are some physicians, particularly those that are associated with the magazine, who are anxious to stamp out of existence [*sic*] such concerns that offer a bona fide product, a meritorious product which actually produces the required results, without the aid of medicine.

"For the particular maladies for which we offer our foods, we have been very successful, consequently the antagonism on the part of this particular journal is the logical thing. In addition to this, however, and perhaps more important to us, is the fact that the editors of this magazine have made it known to us that they will not approve of our product until such time that we care to be dominated by the moving influence of the magazine in question. They want us to supply them with the private formula which we use for manufacturing our foods and to enlighten them and show them the various processes applied to our products to produce the required results. As a bona fide and ethical business house, we absolutely and unqualifiedly refuse to comply with this wish, and will always refuse to do so, no matter how often they may attack us. We stand strictly on principle in this matter and propose to run our business in our own way, and will not, under any circumstances, allow a magazine or anybody else dictate to us under what conditions we are allowed to do our business.

"The remarks which they make would perhaps hurt us some if they emanated from a source that was qualified to judge the merits of our food. The absurd side of the issue, and perhaps the comical side of it, is the fact that the honorable gentlemen who assume to condemn a product, know less about the disease for which the product is offered, and much less about diet and foods than the average layman. Consequently, we consider it simply absurd to allow them to step into our business and dictate policy to us. This is the jist [*sic*] of the discontent that prevails between the magazine editors and ourselves, and as long as we refuse to comply with their wish, we certainly cannot expect them to speak well of us. It has become a notorious fact in the medical profession that their criticisms are almost valueless, inasmuch as they stop at nothing in order to create sensationalism, and have attacked not only ourselves, but every bona fide manufacturer of foods and drugs in this country who has refused to fall in line with them.

"This explanation, we trust, will appeal to your good judgment and will convince you of what is said about us is untrue. Furthermore, our business has grown to colossal proportions, notwithstanding their endeavors to crush us.

We call your attention to a most peculiar fact: that is, that they make no comment whatsoever as to the product and its therapeutic value in the treatment of diabetes. You notice they make an awful play on our literature, which was changed merely to suit conditions in business. We also wish to call your attention to another peculiar fact, and that is that a great majority of the physicians who are in with this magazine readily recommended our foods, and we also believe that your physician, after reading this letter, will feel the same way as most physicians do in relation to our foods. We believe that your physician is perfectly willing to be convinced that our foods are as represented to be, and the very best clinical evidence as this is the effect our foods have had upon you. Finally, if the foods are palatable and wholesome and have alleviated the annoying symptoms of Diabetes, then why should you be guided by the opinions of demagogues and yellow journalists?

"You may be pleased to learn that our foods have received the attention of Dr. Wiley, the well-known chemist and food scientist of this country, and we have now in our possession his reports showing the very high standard of our foods. This, in our opinion, is of more consequence than all the harangue which those venerable gentlemen of the magazine may indulge in.

"We want to convince you without an atom of doubt that we are honest and bona fide in everything we say, and we extend to you a hearty invitation to call at the first opportunity and shall be glad to tell you anything you may wish to know. Thus awaiting the pleasure of this visit, we beg to remain

"Yours very truly,

"JIREH DIABETIC FOOD Co."

We learn from this letter that THE JOURNAL'S "remarks" on the Jireh product are "libelous." We have made them many times and for several years past; if libelous, the manufacturer has excellent grounds for damages. We learn, too, that our remarks "are in no way pertinent enough to detract from the value" of the Jireh products. Why, then, take any notice of them? We learn, moreover, for the hundred-and-first time, that THE JOURNAL is the official organ of the "medical trust," and we are told that "there are some physicians" that are opposed to the Jireh Foods because these products cure diabetes without the use of medicine! THE JOURNAL, so the company says, wants the Jireh Diabetic Food Company to supply its "private formula" and to show the "various processes" by which the Jireh products are made. Such statements indicate that the Jireh Diabetic Food Company does not confine its mendacity to the mere advertising of its product, where the necessity for lying is naturally great.

The ambiguous remarks regarding Dr. Wiley are evidently intended to convey the idea that the doctor approves of the Jireh products. Dr. Wiley was sent a copy of the Jireh letter and his attention directed to the statements appearing therein regarding himself. He replied:

"In regard to the Jireh products and their claims that our reports show the very high standing of their foods, I would say that I consider such a claim entirely false. . . . We did examine five or six products in our own laboratory, however, and found them to be of very fair composition per se, but *not of a composition that afforded any legitimate basis for their claims. We entirely disapproved . . . three of the products making special claim as to their fitness for diabetics.* [Italics ours.—ED.] These were the Wheat Nuts, the Jireh Flour and the Patent Barley. Two of the other products were passed with a non-committal rating, which means that they are not actually disapproved, but the star marking is not accorded. These products were the dietetic Rusks and the Macaroni. For the latter especially no specific claims seem to be made. We called attention, however, to the generally objectionable juggling of terms indulged in by this company. . . ."

The Jireh concern says that in spite of the efforts of THE JOURNAL to "crush" it, "our business has grown to colossal proportions." Of this the New York physician who sends us the letter says: "Their 'colossal proportions' must have received a slight jar or they would not have taken time to write such a letter."—(From *The Journal A. M. A.*, Dec. 20, 1913.)

THE NAME "EPINEPHRIN" VERSUS THE NAME "ADRENALIN" *

There are thirty or more different brands of the blood-pressure-raising principle of the suprarenal gland on the market, five being in this country alone. These products are identical so far as their chief constituent is concerned; they differ, however as to the solvent and preservative used. The processes of manufacture of some of them are patented; all of them are sold under trade names.

Until two years ago there was no common name applicable to this active principle; whenever reference was made to it a trade name had to be used. At that time the Council on Pharmacy and Chemistry, realizing the need of a generic term, adopted "epinephrin" as such a term. This name was selected in part because Abel had adopted it in 1899; in part because, so far as could be discovered, it was the name under which, through Abel's publications, the substance first appeared in medical literature; and in part because it seemed to be the only suitable one not already appropriated by some commercial firm.

After the publication of the Council's report, THE JOURNAL began gradually to use the term in those cases in which it seemed clear that the proprietary term was used in a generic

* A reprint of the letter from Parke, Davis & Co. referred to in this article, together with the discussion thereof, will be sent on receipt of a 2-cent stamp.

sense. The substitution of the name "epinephrin" for "adrenalin" in the abstracts of certain foreign articles caused Parke, Davis & Co. to write a letter of protest which called forth the discussion appearing in the Propaganda Department of this issue.

The amount of space devoted to this matter may be criticized and considered unwarranted by those who do not realize the importance of the subject. The criticism is to a certain degree, just. The somewhat inordinate length of the article is due in part to the unfortunate fact that, in availing themselves of the courtesy extended by THE JOURNAL, Parke, Davis & Co., in their reply, have injected into the discussion side-issues, such as the priority of discovery, the superiority of their product, etc., whereas the question under discussion is simply that which relates to the name. It is, however, not altogether a matter for regret that the discussion has been thus broadened, for it brings before our readers many facts regarding the discovery of an important medicinal agent that are not generally known, at least by physicians.

Whether or not "adrenalin" is superior to "adrin," "suprarenalin," "suprarenin," "adnephrein," or to any other of the preparations is entirely immaterial in this connection. The point is that the active principle of the suprarenal gland is on the market under various trade names, and that a name common to all has been selected to be used when no particular brand is referred to. The fact that "adrenalin" is regarded by many, both here and abroad, as a common, generic name does not alter the fact that it is claimed as a trade name by a commercial house and, therefore, presumably at least, cannot be used except as such.

Among the facts brought out in this discussion, one stands out clearly: that Abel deserves as much credit for the discovery as any other man, if not more. Credit belongs to Takamine for making use of reactions which were already well known. His work was a step in the progress of knowledge of the substance, but it was a step which he could not have taken but for what others, Abel especially, had accomplished and published. Abel's magnificent work, covering several years, deserves as much credit, to say the least, as that of Takamine. And it should be kept in mind that the former worked in the interest of science, and published his results for the benefit of all. He had no hope of pecuniary reward, asked for none, and received none.

Let us repeat, however, that these are side issues; the question is simply that of name. It cannot be too strongly emphasized that "epinephrin" is a true scientific name for the active principle of the suprarenal gland, and that it should be used on all occasions when the active principle and not some particular firm's make is referred to.—(*From The Journal A. M. A., March 25, 1911.*)

THE HORD SANITARIUM

*"Propaganda for Reform Department:—*One often hears it declared that the present time is the worst ever known for a young man to make a fortune or get a start to one.

"All a mistake, as the enclosed letter from the Hord Skina-tarium will certify. At \$25 this equals \$2,500 for 100 cases, \$25,000 for 1,000 cases, and all any young doctor needs is a little push to be as rich as J. D. in a few months. If you know of any cases send 'em in and get your \$25.

"K. T. CROSSEN, M.D., Carbondale, Ohio."

With his letter Dr. Crossen encloses a circular letter from the Hord Sanitarium, "For Liquor and Drug Habits, A Cure Positively Guaranteed," and an unsigned check on the Farmers National Bank, Shelbyville, Indiana, for \$25 payable to himself. Printed on the check in large red letters is the statement:

"THIS CHECK WILL BE COUNTERSIGNED UPON YOU BRINGING OR SENDING US A PATIENT."

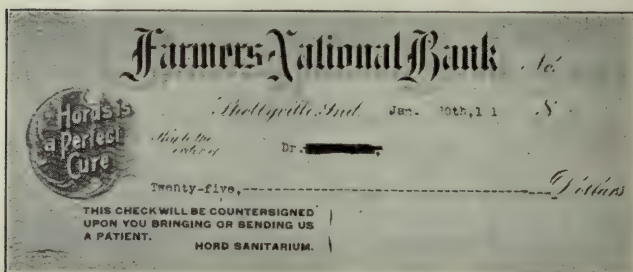


Fig. 1.—Photographic reproduction of the unsigned check that the Hord Sanitarium sends to physicians.

THE JOURNAL has received these circular letters and unsigned checks by the hundreds from physicians who have expressed very frankly their contempt of the kind of business the Hord Sanitarium is engaged in. These correspondents seem to have overlooked the fact that THE JOURNAL has already commented editorially on this particular insult to the medical profession. For this reason we reprint the editorial note, "Ethics!" from THE JOURNAL, Sept. 27, 1913:

"We will pay you \$25 for each patient that you bring or send us." Thus, to physicians, writes the Hord Sanitarium of Shelbyville, Indiana, and continues: "We have a perfect and an absolute cure for all liquor and drug addictions." Fearing doubtless that those to whom these offers are made may be disgusted with the first proposition and will realize the evident falsity of the second, the concern encloses a list of references "showing the high moral and professional

standing of our sanitarium." The Hord Sanitarium emphasizes further that it does a strictly "no cure no pay" business. Suspiciously similar is the offer made by the Mizer Sanatorium of Coshocton, Ohio, Blake V. Mizer, manager. Not many months ago Mr. Mizer was running the Hord Sanitarium (the concern's own spelling), which at that time advertised "the only guaranteed cure." Now, Mr. Mizer hurls invectives at those concerns that make "unreasonable guarantees" and adds virtuously that "we resort to no such unethical and pretended guarantee in order to do business." Nevertheless, in small type in the northwest corner of his stationery, Mr. Mizer admits that his "proposition" is no cure no pay. The fees of the Mizer Sanatorium "are \$125 to \$250, depending on the room." The physician's rake-off is "20 per

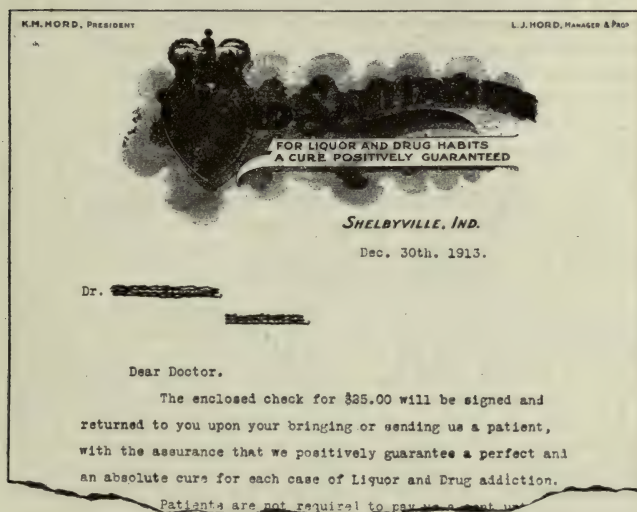


Fig. 2.—Part of the letter that accompanies the check for twenty-five dollars.

cent. of the above." "This," explains Mr. Mizer blandly, "is simply a matter between ourselves and does not concern the patient in any way." Of course not. All the patient has to do is to pay the bills. And the Mizer Sanatorium is "conducted along ethical . . . lines"—Mr. Mizer says so. The Mizer Sanatorium has odd ideas of what constitutes ethics, medical or otherwise, for not long ago it advertised, in such medical journals as would accept its "copy," that "medical ethics prevents the statement here of the whole truth about the Mizer treatment." Of course medical ethics never prevented truthful statements of any kind. A dirty business; no other words express it. When the Hord Sanitarium and the Mizer Sanatorium claim to cure all

cases of drug or liquor addiction, they make claims that are false—cruelly false. When these concerns try to drum up trade by offering secret commissions to physicians they insult an honorable profession. The fact that they send out this sort of advertising matter is presumptive proof that there are some physicians who will patronize them. Such as do so are unfair to their patients and untrue to the ideals of medicine.—(*From The Journal A. M. A., Jan. 31, 1914.*)

THE GERMAN PROPAGANDA FOR REFORM

Appreciation by a German Lay Publication

Of all those interested in the reform of the proprietary drug business, the patient has the most at stake—and the public is beginning to understand this fact. If physicians are slow in recognizing the necessity for improvement, laymen will eventually demand reform in their own interests. The movement, therefore, will not be halted by the indifference of the unprogressive element of the medical profession. New evidence of this fact is furnished by a recent editorial comment by the German lay periodical, *Wohlfahrt und Wirtschaft* (Public Welfare and Economics), on the *Arznei-mittel-Kommission*, a German organization resembling in purpose if not in scope the Council on Pharmacy and Chemistry of the American Medical Association.

"One would suppose," says this lay journal, "that medicinal preparations which did not win the approval of scientific medicine would not be used by any physician, but the contrary is the case. In fact, those new medicinal preparations or old ones with new names that flood the market far surpass the actual demand according to the judgment of all authorities. The impartial advisers in this field, practitioners and members of medical faculties, demand, as a matter of public welfare that this overproduction should be regulated in the interests of the sick, the consumers; but, unfortunately, a medical man, like any one else, is impressed by the suggestion from advertising done on a large scale."

The movement for reform, *Wohlfahrt und Wirtschaft* goes on to explain, is not exclusively a medical one. It is a part of the reaction of "economic common sense" against a too individualistic commercial system which leads to overproduction. In other words, it is a reaction against the system of making things because they can be sold rather than because they are needed. The interests of producers need to be harmonized with those of consumers, not merely in the drug trade alone, but throughout the commercial world. *Wohlfahrt und Wirtschaft* quotes with unqualified approval the *Arznei-mittel-Kommission's* statement of its position: An industry which serves the science of healing must be guided by that

science. (*Eine Industrie die der Heilwissenschaft dient, hat sich nach der Heilwissenschaft zu richten.*)

The movement for reform in Germany has apparently gathered sufficient impetus among the laity to go on of its own momentum, even though, with one exception, German medical journals, reluctant to lose the advertising of drug houses by publishing criticisms of their wares, have become lukewarm, if not antagonistic, to the efforts of the *Arzneimittel-Kommission*. The one exception is the *Therapeutische Monatshefte*, which, in its May issue, quotes in full the editorial just referred to and makes the following comment: "These lines reveal such intimate knowledge and correct judgment of existing conditions that the suggestions advanced in regard to possible reforms deserve serious consideration. For us physicians the editorial is important in that it recognizes that the efforts of the profession to accomplish the reforms aimed at are rational and beneficial from the standpoint of general economics and the public welfare."—(*From The Journal A. M. A., June 13, 1914.*)

THE GERMAN COUNCIL ON PHARMACY AND CHEMISTRY

At the meeting of the German Congress for Internal Medicine in 1911, a German council on pharmacy and chemistry, *Die Arzneimittelkommission des Kongresses für innere Medizin*, was organized, with purposes similar to those for which the Council on Pharmacy and Chemistry of the American Medical Association was created. As practically nothing has been done to restrict the advertising of proprietaries in Germany, the task of the commission was tremendous. Its work has been noted in *THE JOURNAL* from time to time.¹ A review of what has been done up to the present is given by Heubner,² and indicates some differences between conditions in Germany and this country. The members of the commission found confronting them the same evils that met the early efforts of the American council, namely, dominant proprietary interests, a subservient and financially interested medical press and an indifferent profession. Moreover, the pecuniary interest of the editors of German medical journals in the profits of advertising seems to be more direct and more important than in America. The German commission, in Heubner's

1. A German Council on Pharmacy and Chemistry, Propaganda, *THE JOURNAL A. M. A.*, July 27, 1912, p. 291; Current Comment, Aug. 10, 1912, p. 452. Reform in the Advertising of Proprietary Medicinal Articles, Berlin Letter, Dec. 7, 1912, p. 2081. Heubner, W.: Wünsche zur Reform des Arzneivertriebes, *Therap. Monatsh.*, 1912, xxvi, No. 11; abstr., *THE JOURNAL A. M. A.*, Dec. 14, 1912, p. 2195.

2. Heubner: *Die Arzneimittelkommission des deutschen Kongresses für innere Medizin*, *Therap. Monatsh.*, 1914, xxviii, 185.

opinion, was placed at a disadvantage compared with the American council from the first. Funds for investigation were lacking, and the commission had no journal in which its objects could be presented to the medical profession. At the beginning of its work the commission established rules very similar to those of the American Council on Pharmacy and Chemistry. It listed the articles advertised in German medical journals in three groups: (1) those which conformed to the rules of the commission in the method of advertising; (2) those which violated the rules, and (3) those whose classification could not be determined. This amounted to an attack on advertising in medical journals and was undoubtedly premature. It aroused at once the antagonism not only of the proprietary interests but also of the medical press.

"The establishment of the lists of medicines encountered opposition or hindrance from three sources," says Heubner, "first, from the pharmaceutical and chemical manufacturing interests; second, from the medical press, and third, from the medical profession itself. The 'trade' naturally was irritated at any attempt to interfere with 'business,' and brought forward a number of reasons why the procedure adopted by the commission was especially calculated to injure the 'general welfare.' This opposition was to be expected and might be disregarded. The extent to which the medical press was dependent on the drug trade, however, had not been foreseen. The same journals in which for many years all sorts of articles on the evils in the trade in medicines had appeared showed themselves decidedly cool or emphatically critical toward the accomplished fact of the 'lists of remedies.' In hastily written articles a whole series of mistakes in general and in particular were published. . . . One thing, however, was not explicitly stated—namely, that in any event the lists of remedies must be rejected, and for this the cogent reason was anxiety in regard to advertisements. The editors had been sufficiently warned. The *Therapeutische Monatshefte*, which had not submitted to the wish of a great industrial firm in another matter, was punished for this offense by the withdrawal of all its advertisements. None of the other publishers wanted to risk such a reduction in income, and none of the editors was willing to undertake the risk to the extent of a conflict with his publisher. Curiously, the idea does not seem to have arisen that if the threatened publishers had made common cause they might have freed their editors from the distressing burden of improper advertisements with scarcely any risk at all."

Heubner believes that another motive influencing the editors was the fact that their efforts in behalf of reform, sporadic and ineffective at the best, had been replaced by the propaganda of the commission. It seems clear that the opposition from the press was due not to principle chiefly but to financial pressure. The editors, however unworthy their motives, nevertheless exerted, as in other cases, a powerful

influence on public opinion. Among the medical public, opposition was encountered because many physicians were interested—sometimes financially—in one or more of the discredited remedies. The mass of the profession either were not interested or misunderstood the position of the council.

Despite the obstacles encountered and the difficulties involved, the council and the Congress of Internal Medicine have not wavered. Heubner, however, sums up the work of the council in a rather pessimistic tone, as follows:

“What are the results of the great amount of labor, self-sacrifice, hopeful courage and wasted money? Two journals pretend to be doing wonders in that they are eliminating some of the worst misstatements, distortions, obscurations and concealments of truth in the advertisements. Physicians at certain intervals receive lists of preparations, the manufacturers of which as a rule do not need to pay any attention to the council because their dealings are directly with the public, because their advertisements are usually made to physicians by word of mouth, or their preparations have already a sufficient reputation—no matter for what reason. . . .

“There is little doubt that the results have not paid for the efforts expended. There is no doubt that the whole enterprise will amount to nothing more than a splash in the water if the work is not extended, just as a preliminary skirmish must remain without effect unless followed up by the main army. The main army in this case is the German medical profession. However gratifying the progressive attitude of some individuals and, in fact, of some associations, such as that of Wurtemberg, may be, the fact remains that the profession [in Germany] is not advancing but rather tends to retrograde. The support which the executive committee of the Aerztevereinsbund at first accorded to the efforts of the council was later limited. All further progress depends on the developments of the near future. Will sufficient power be given to the German medical profession after settlement with the insurance societies to permit them to follow the example of their American colleagues?

“It should be made perfectly clear,” Heubner insists, “that we are concerned with questions of importance for the standing and influence of the medical profession among the people, and, consequently, for the conditions of its future existence. But even now the consequences of the prevailing indifference to the traffic in nostrums are making themselves felt. The prevalence of self-medication, which was lately recognized by a Berlin court as the normal for ‘slight’ affections and which has already been made an argument against the extension of the compulsory prescription law, is merely a result of the great evil based on the loss of control by the medical profession of the remedies it employs. Only centralized and energetic measures on the part of the organized profession can secure a reformation of the intolerable conditions that prevail in the field of modern industry in medicine and food-stuffs. The American Medical Association and the German

Arzneimittelkommission have shown that a little sacrifice and energy can secure a condition in which the medical profession becomes a powerful factor, able to dictate in the field of the trade in medicine instead of letting itself be dictated to.”—(*From The Journal A. M. A., April 18, 1914.*)

GRAND PRIX AND GOLD MEDALS FOR SALE

Max Kaiser Offers to Procure “Awards of Merit” at Various International Exhibitions—Price, Four Hundred Dollars

There was a time when the manufacturer who could point to the “Grand Prix” or the “Gold Medal” his product had been awarded at some exhibition was considered to have a valuable advertising asset. Possibly there was a time when medals and prizes were awarded with an eye single to the excellencies of the goods and bore no relation to the amount of money paid by exhibitors to the organizers of the exhibition. Possibly there are, even today, occasional awards made on a basis of pure merit, but they are probably few and far between. The matter which follows throws an interesting light on this subject. Within the past two months manufacturers have received a letter on the stationery of the “International Exhibition, Paris, 1914.” The letter came from the “Commissioner-General” of the exhibition, one Max Kaiser, 24 Holborn, London, E. C. Here it is:

“*Dear Sirs:*—I beg to draw your attention to the great INTERNATIONAL EXHIBITION of Alimentation, Pure Food, Hygiene, Beverages, Drugs and allied trades, which will be held at Paris in March, 1914, inviting you to partake with your manufacture at this INTERNATIONAL EXHIBIT. I beg to point out that the aim of this Exhibition is to introduce Foreign Manufactured Goods, Proprietary Articles, Patents, etc., to the French and Foreign Markets, and to open up or extend new channels for such goods.

“A Commercial Office at the Exhibition Building, under the Commissioner General’s own supervision, with a well-trained staff, will do everything required in the interest of Exhibitors, such as effect sales by circularizing, or inviting prominent buyers to call at your particular stall to judge for themselves the merits of your Exhibit, and in this way bring the American Manufacturers in direct touch with the Foreign Markets and the Buying Public.

“This Commercial Office will also negotiate with the Representatives on your behalf: at the same time undertaking to arrange your Exhibit, supply all necessary fittings, decoration, the display, maintenance, repacking and returning of the Exhibit, and also to represent you before the Public and Jury in such a manner as to make certain that your Exhibit shall be awarded first honors (GRAND PRIZE OR GOLD MEDAL).

“You will understand that such an award obtained at this INTERNATIONAL EXHIBITION means an everlasting advertisement as an official acknowledgment and convincing proof to the Superior Quality of your goods, and will certainly put you in front of your competitors on the home market, and naturally increase your sales considerably.

“I might mention here that many a big business has been built up and small concerns been prominently brought to the notice of the Public by Exhibiting. In many cases I have been able to interest Authorities and Reigning Houses in Exhibits under my care, and I

have opened up or extended markets for firms Exhibiting under my direction.

"I enclose herewith a list containing some of the most prominent American and English Firms whom I have represented at European Exhibitions and for whom I achieved splendid results.

"I could arrange your Exhibit for the amount of \$400, to be paid one-half on allotment and the balance on receipt of an award (Grand Prize or Gold Medal).

"Trusting that this will be of interest to you, I shall be pleased to receive your reply by return mail, and give you any further particulars you may desire. Yours faithfully,

THE COMMISSIONER GENERAL.

(Signed) Max Kaiser.

"I can also accept Exhibits on exactly the same terms for the INTERNATIONAL EXHIBITION, Rome, 1914."

The list Mr. Kaiser enclosed with his letter was a printed sheet, giving the names of a number of American and British manufacturers whom Kaiser claims to have "represented" at various "International Exhibitions." The majority of the concerns named are breweries, but there is a good sprinkling of

International Exhibition, Paris, 1914

UNDER THE HIGH PATRONAGE OF:

<p>The Minister of Agriculture. The President of the General Council. The President of the Municipal Council of Paris. The Prefect of the Seine.</p>	<p>March 1914</p> 	<p>The Director of General Administration. The Mayor of La Ville de Neuilly. The President of the Touring Club of France. The President du Syndicat de l'Industrie.</p>
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Commissioner-General: MAX KAISER, Esq., 24, HOLBORN, LONDON, E.C.

Telephone 179 Holborn.
Cable Address "PATENOVUM"

Photographic reproduction (reduced) of the letter-head of the stationery on which Max Kaiser offers to "make certain" that those who exhibit their products under his direction—price, \$400—shall receive a Grand Prix or Gold Medal.

"patent medicine" companies and a few miscellaneous manufacturers. In the American list there are two nostrum concerns named that will be more or less familiar to our readers. They are:

Alonzo O. Bliss Company, Washington, D. C. This company sells "the Great Blood Purifier, Kidney and Liver Regulator" known as "Bliss' Native Herbs." According to Max Kaiser, the Alonzo O. Bliss Company obtained one Grand Prize and one Gold Medal.

Waterbury Chemical Company, Des Moines, Iowa. This company exploits what used to be known as "Waterbury's Cod-Liver Oil Compound," which, from its lack of cod-liver oil,¹ was impelled to change its name to "Waterbury's Compound." Kaiser states that the Waterbury Chemical Company received four Grand Prix and four Gold Medals.

1. See Waterbury's Compound, pp. 54, 57 and 291.

Briefly the proposition submitted by Max Kaiser is this: For \$400 he will make all arrangements for a manufacturers' exhibit at one of the numerous "International Exhibitions." Further, he practically guarantees that this exhibit will receive either a "grand prize" or a "gold medal"; in fact, the manufacturer need not complete the payment of Kaiser's charges until the prize or medal has been awarded!

The value of "awards" obtained in this way is, of course, evident. As the public becomes better informed on the subject of international exhibitions, the grand prix, gold medals, and other "awards" made at such exhibitions will be appraised at their true value.—(*From The Journal A. M. A., March 14, 1914.*)

THE HYPOPHOSPHITE FALLACY

An Example of the Perpetuation of a False Theory by Advertising

A false therapeutic notion born of speculation soon dies a natural death if exposed unsupported to the cold world of facts, but when nursed by commercial interests it may be kept alive for generations. Interesting examples of this, to name but two or three, are the misconceptions perpetuated during the past half century concerning "lithia," the "natural" salicylates and the hypophosphites.

Take, for instance, the lithia delusion. The supposed solvent powers of lithium compounds for uric acid were soon disproved to the satisfaction of scientists, but proprietors of lithia waters and nostrums for gout and rheumatism still harp on the old string and utilize long-exploded theories. Take, again, the alleged superiority of "natural" to "synthetic" salicylates. In spite of experimental proof to the contrary, proprietary interests have been able for twenty years to persuade a large part of the medical profession that the effects of pure salicylic acid made artificially differ from the effects of the same substance obtained from natural sources.

The altogether undeserved continued popularity of hypophosphites affords a striking example of the influence of advertising in perpetuating therapeutic error, for hypophosphites are given on a theory long since disproved. It may be interesting to trace the origin and history of the theory on which the practice of prescribing the hypophosphites is founded. The early part of the last century was prolific in chemical discoveries, and, as a corollary, in chemical theories of disease. Many of the theories arose from the hasty application of the chemical properties of new elements and compounds to the explanation of the processes in the living body, without due consideration of the conditions prevailing in the animal organism.

THE ELEMENT PHOSPHORUS

The element phosphorus is eager for oxygen and readily oxidizable. When taken into the system it acts as a violent poison, and, in view of this, it was at first supposed—although the supposition was based on no scientific data—that it would prove to be a powerful therapeutic agent when given in minute doses. In its elementary form, phosphorus is difficult to handle, and therefore not convenient for use. Hence it was natural that a compound should be sought which could be used as a substitute for the element.

Broadly speaking, phosphorus forms three classes of salts varying in the degree of oxidation: the phosphates, containing the most oxygen, the phosphites, containing less, and the hypophosphites, least of the three. The phosphates, being saturated with oxygen, undergo little change in the body, and because of this were thought to be of little value in therapeutics. The phosphites contain less oxygen, are unstable and are not used in medicine. The hypophosphites, containing still less oxygen, stand nearest to elementary phosphorus and are easily decomposed and readily oxidized to phosphates. Hence the theory that the hypophosphites would furnish an admirable source from which to obtain the action of the element phosphorus.

CHURCHILL'S THEORY

The hypophosphites were introduced into medicine about 1855, as a substitute for elementary phosphorus by a Dr. Churchill of Paris, and later of London, who advocated their use as a specific remedy for consumption. Churchill conceived the theory that phthisis is caused by a lack of oxygen in the tissues; he therefore sought an agent capable of increasing oxidation. He was led to the use of hypophosphites for this purpose on the supposition that phosphorus exists in the organism as a biologic element in a lower degree of oxidation than the phosphate. He supposed that this form of phosphorus acts by its chemical affinity as an initiatory agent in attracting and utilizing the inspired oxygen. He believed that when this form of phosphorus, which he called the "phosphide element," is deficient in quantity (because it had been oxidized into phosphate, or because the supply from natural sources was deficient), the degree of oxidation of the tissues is less than normal. Therefore he advocated the use of hypophosphites to supply the lacking oxidizing constituent. He believed this "phosphide element" not only to be essential for the oxidation of the tissues, but also to be the source of energy of the nervous system.

THE FACTS

The theory was a pretty one; the facts, however, did not support it. Subsequent investigations indicate that instead

of consumption being due to a lack of oxygen, there is in that disease really an increased oxidation; in other words, the respiratory exchanges in this disease are exaggerated. The existence in the system of a form of phosphorus less highly oxidized than the phosphates is unproved. No evidence has been produced to show that phosphorus acts as an energizer of oxidation. There is no proof that the hypophosphites enter into general metabolism or affect disease processes in any way. Not only is there no scientific evidence for the utility of the hypophosphites, but science has long since demonstrated their worthlessness.

In 1895 Boddaert¹ published researches showing that hypophosphites are rapidly eliminated through the kidneys unchanged. Similar results have been reached by Paquelin and Joly, who attributed to the hypophosphites only the action of diuretics. In 1901 Massol and Gamel² found by animal experimentation that the hypophosphites did not act as diuretics, but that the hypophosphorous acid was completely eliminated in the form of sodium hypophosphite. The urea was not increased and the relation of urea to total nitrogen remained the same. Their results indicated no increase of oxidizing actions within the system. Finally, Massol and Gamel examined the urine of patients taking hypophosphites and found the same conditions: the results were the same as in the experiments on animals.

PROPRIETARY THERAPEUTICS

In spite of these facts the hypophosphites continue to be employed by many practitioners. Why? Because the theory, being plausible at the time when such chemical theories were popular, gained a certain recognition and was accepted without scientific investigation. Thus the hypophosphites came into use. It was not long before they were taken up by certain manufacturers, and the theory on which their use was based became a commercial asset. As a result the theory, which uncommercialized would have died of inanition, was kept alive by continued advertisement.

The manufacturer of proprietaries having settled on a plausible theory on which to sell his products has no further need for science. Thus, while these theories are no longer to be found in accredited text-books, they are still preached by the proprietary interests. An elaborate pamphlet on "Iodine and Phosphorus," containing statements which are known to be false, is one firm's text-book supplied to physicians to-day, and contains long quotations from Dr. Churchill's writings of sixty years ago. This book contains no intimation that these theories have been overthrown. It is poor

1. Boddaert: *Arch. de pharmacol.*, 1895, 2.

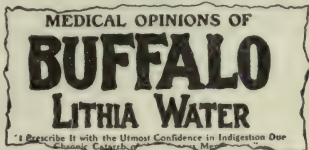
2. Massol and Gamel: *Jour. de pharm. et de chem.*, 1901, xiv, 337.

economy to waste money in changing literature when the old theories and the old plausible reasoning will sell goods just as well. Consequently the old errors are drummed into those physicians who are willing to read their physiology from the neat monographs of proprietary literature and to sit at the feet of glib salesmen who expound to them the proprietary theory of therapeutics.—(*From The Journal A. M. A., April 25, 1914.*)

BUFFALO LITHIA WATER

Contains One-Fifth as Much Lithium as Potomac River Water

Some years ago, Alexander Haig evolved the theory that most diseases are due to uric acid. The data on which he founded his theory were not corroborated by scientific men, and investigation showed that his methods were unreliable. In spite of the fact that Haig's theories are utterly discredited, and have been for years, the uric acid fallacy still persists, although it is now largely confined to the public. Shrewd business men, especially those who are more intent on making money than they are concerned with the manner in which that money is made, owe much to



NOW

AND

THEN

Showing how "Buffalo Lithia Water" in the course of time became "Buffalo Lithia Springs Water." The government has shown that, to obtain a therapeutic dose of lithium from Buffalo Lithia Springs Water, it would be necessary to drink 200,000 gallons of the water. The government also declared that Potomac River water contained five times as much lithium as does Buffalo Lithia Springs Water.

Haig's theory. As a business proposition, uric acid has been one of the best-paying fallacies on the market—and possibly still is. It is only necessary to refer to THE JOURNAL's recent article¹ on the Turnock mail-order medical fraud to emphasize this fact.

Contemporary with, and to a certain extent a corollary of, the uric acid fallacy was another, *viz.*, that lithium would eliminate uric acid. This at once gave a good working principle for the proprietary men. Uric acid, we were told, causes disease; lithium, we were also told, would eliminate

1. THE JOURNAL A. M. A., May 23, 1914, p. 1675.

uric acid; therefore, lithium is the new elixir of life! Could anything be simpler?

Accepting this theory, it was inevitable that mineral waters containing lithium salts should become highly popular. Many exploiters of mineral waters began to place most emphasis on the lithium salts in their waters even in those cases in which lithium was present in such infinitesimal amounts as to render its detection impossible by any but spectroscopic methods.

One of the best known, because most widely advertised, of the so-called lithia waters is Buffalo Lithia Water—or what used to be called Buffalo Lithia Water. After the Federal Food and Drugs Act came into effect, by which falsification on the label was penalized, the name of Buffalo Lithia Water was changed to Buffalo Lithia Springs Water. The reason for this change was that when Buffalo Lithia Water was subjected to examination by the government chemists it was found to contain so little lithium that the amount present was unweighable—it could be demonstrated only by the spectroscope. It was evidently, therefore, not a lithia water in that it did not contain—at least in quantities that could be consumed—an amount of lithium that would give the therapeutic effects of lithium: Possibly the company imagined that by changing the name from “Buffalo Lithia Water” to “Buffalo Lithia Springs Water” it had cleverly evaded the federal law. Their argument was to this effect: The springs from which this water is taken are known as Buffalo Lithia Springs; therefore, it is not a misstatement of facts to call this Buffalo Lithia Springs Water.

WHAT IS A LITHIA WATER?

The Supreme Court of the District of Columbia, holding a district court, has recently given an opinion on the Buffalo Lithia Springs Water case. The findings of the court are refreshingly simple, and characterized by that broad common-sense view that is becoming increasingly more common among modern jurists. Read Judge Gould's opinion as to what constitutes a lithia water:

“Speaking generally, and as an individual of average intelligence and information, it would seem that if one were offered a water which the vendor told him was a ‘lithia’ water, one would have the right to expect enough lithium in the water to justify its characterization as such, thus differentiating it from ordinary potable water; and this amount would reasonably be expected to have some effect on the consumer of the water by reason of the presence of the lithium.”

Certainly a reasonable attitude, and one which the man in the street not only can understand but will agree with. Then

came the question as to the actual lithium content of Buffalo Lithia Springs Water, and the court said:

"For a person to obtain a therapeutic dose of lithium by drinking Buffalo Lithia Water he would have to drink from one hundred and fifty thousand to two hundred and twenty-five thousand gallons of water per day. It was further testified, without contradiction, that Potomac River water contains five times as much lithium per gallon as the water in controversy."

SOME TESTIMONIALS

Here, then, is a water that has for years been advertised first, in medical journals, and later, in lay publications, as a "lithia water" yet, actually, it contains less lithium, five to one, than is to be found in ordinary river water. This is a point for physicians to ponder well over. Turn to the back volumes of medical journals and read, both in the advertising and reading pages, the elaborate testimonials, given by men high in the medical profession, on the marvelous effects obtained by the use of Buffalo Lithia Water. Read the following in light of the fact that the water from the Potomac River contains five times as much lithium as Buffalo Lithia Water:

"In the class of cases in which lithia, soda and potash are regarded as most specially indicated, I have obtained far better results from the Buffalo Lithia Waters than from any of the preparations of the lithium salts of the Pharmacopeia." (*Statement by a member of the Faculty of Medicine of Paris, France, etc.*)

"Its [Buffalo Lithia Water] therapeutic effects, in my practice, have been vastly superior to those obtained from Lithia Tablets or other Lithia preparations." (*Statement by an ex-president of the University College of Medicine, Richmond, Va., etc.*)

"It [Buffalo Lithia Water] is strikingly superior to emergency solutions of lithia tablets and pure water, even where the said solution is an exceedingly strong one." (*Statement by a former Professor of Clinical Medicine of the College of Physicians and Surgeons, New York, and vice-president of the American Medical Association, etc.*)

"When Lithia is indicated, I prescribe Buffalo Lithia Water in preference to the Salts of Lithia, because it is therapeutically superior to laboratory preparations of Lithia." (*Statement by a former professor in the Medical College of Virginia and ex-president of the Medical Society of Virginia, etc.*)

"Buffalo Lithia Water . . . by its richness of composition of Lithia, is of marvelous efficacy, in cases of gout, of chronic, articular, and muscular rheumatism . . ." etc. (*Statement by former Physician in Ordinary to the Pope; Member of Academy of Rome, etc.*)

"I have tried carbonate of lithia dissolved in water in various proportions; but it certainly does not have the same effect as Buffalo Lithia Water." (*Statement by a former Surgeon-General of the U. S. Army, etc.*)

These are but a few of many testimonials from physicians that might be quoted. They are interesting from many points of view. They show the worthlessness of testimony of this sort—no matter from what source—and the fallacy of that based on so-called clinical evidence.

To go back to the court's findings: In the case of the government against Buffalo Lithia Springs Water, one other judicial opinion is worthy of attention, that referring to the attempt on the part of the exploiters of the water to circumvent, on a technicality, the evident intent of the Food and Drugs Act. Said Judge Gould:

"The argument seems to be that if Buffalo Lithia Springs are falsely named, being called 'Lithia' Springs, when they do not flow water containing lithium, therefore the proprietors have the right to sell the product as being Buffalo Lithia Springs Water, thus perpetuating on the public the misnomer connected with the origin of the water. It is not apparent how the deceit practiced on the public by the label is mitigated by carrying it back to the designation of the spring from which the water comes."

For years no one, apparently, ever criticized the claims made for this product. Finally, we got the Food and Drugs Act and the federal officials, acting under the authority vested in them by that law, in December, 1910, declared Buffalo Lithia Water misbranded. Thus this old established vested interest was attacked. The company, of course, fought. It first demurred to the charge brought, and in April, 1912, the demurrer was sustained. At the same time an amended libel was filed by the government, which the company again demurred to. This demurrer was overruled in June, 1912, whereon the company in December, 1912, filed an answer denying that the water was misbranded. The question has now (1914) been finally decided by the court sitting as a jury, the matter having been submitted by agreement to the court.

Buffalo Lithia Water has been sold since 1878. During this period undoubtedly many physicians have prescribed enormous quantities of this water, and many more laymen have taken the water on their own initiative, based on the advertised claims made for it. Practically all who purchased the water, whether directly or on the advice of physicians, did so in the belief that they were getting lithium. Had they known that, to get a therapeutic dose of lithium they would have had to drink 200,000 gallons of Buffalo Lithia Water, they would have felt, and rightly so, that they were the victims of an expensive hoax.—(*From The Journal A. M. A., June 13, 1914.*)

MEAT EXTRACTS AND MEAT JUICES*

Their Composition and Relative Values

The Bureau of Chemistry of the Department of Agriculture has recently given in Bulletin No. 114 much new and valuable data regarding the commercial meat products. The

* See Report of the Council on Pharmacy and Chemistry on "Meat and Beef Juices," p. 123.

work contained in this bulletin is practically an elaboration or continuation of that published in *THE JOURNAL* of May 11, 1907, p. 1612. It was taken up to determine the condition and quality of meat preparations in general and from the results obtained to prepare tentative standards for the preparation and composition of such meat preparations. The results as well as the methods of analysis of many meat products are given, showing the composition and relative value of the various preparations. The comments of many investigators regarding the food value of such products is also a valuable contribution to the knowledge of meat extracts, and will help in deciding the real value of the preparations.

The preparations taken up are divided into three general classes (1) Solid and Fluid Meat Extracts; (2) Meat Juices; (3) Miscellaneous Preparations. For each of these the tentative standards submitted by the Committee on Food Standards of the Association of Official Agricultural Chemists are given along with the tabulated results of the chemical analysis. The preparations examined showed, for the most part, that they conformed to the standards, and only those which are at variance in one or more particulars will be mentioned in this review.

SOLID MEAT EXTRACTS

For solid meat extracts the following are the requirements:

"Meat extract is the product obtained by extracting meat with boiling water and concentrating the liquid portion by evaporation after removal of fat, and contains not less than 75 per cent. total solids of which not over 27 per cent. is ash and not over 12 per cent. is sodium chlorid (calculated from the total chlorin present), not over 0.6 per cent. is fat and not less than 7 per cent. is nitrogen. The nitrogenous compounds contain not less than 40 per cent. of meat bases and not less than 10 per cent. of kreatin."

With the above as the standard, several of the solid meat extract preparations examined were not up to grade on one or more points, though in some cases it is true they were very slightly below the standard set. The following products were found wanting in some respects and the requirements which they failed to meet are given:

"**REX**" BRAND BEEF EXTRACT (Cudahy Packing Co., Omaha) contained 26.50 per cent. water instead of the standard 25 per cent.

EXTRACT OF BEEF PREMIER (Libby, McNeil & Libby, Chicago) contained 30.92 per cent. of ash instead of the standard 27 per cent.; 18.32 per cent. of sodium chlorid (standard, 12 per cent.); 6.02 nitrogen (standard, 7 per cent.).

BEEF EXTRACT (Swift & Co., Chicago) contained 13.51 per cent. sodium chlorid (standard, 12 per cent.); 6.60 per cent. nitrogen (standard, 7 per cent.).

BEEF EXTRACT, COIN SPECIAL (G. H. Hammond Co., Hammond, Ind.) contains 13.25 per cent. of sodium chlorid (standard, 12 per cent.); and 6.86 per cent. nitrogen (standard, 7 per cent.).

With these few exceptions, the solid meat extracts were found to comply with the standards given.

FLUID MEAT EXTRACTS

For fluid meat extract the following standards have been suggested:

"Fluid meat extract is identical with meat extract except that it is concentrated to a lower degree and contains not more than 75 per cent. and not less than 50 per cent. of total solids."

According to this standard all excepting one of the fluid meat extracts examined were found to be below grade in one respect, that of solids. The following are preparations examined and the percentage of solids found:

	Per cent.
CONCENTRATED FLUID BEEF EXTRACT (Armour & Co., Chicago)	42.25
MEAT JUICE (Valentine's Meat Juice Co., Richmond, Va.)	42.36
BEEF JUICE (John Wyeth & Bro., Philadelphia)	41.16
VIGORAL (Armour & Co., Chicago)	50.06
"REX" FLUID BEEF EXTRACT (Cudahy Packing Co., Omaha)	44.01
FLUID EXTRACT OF BEEF (Cibilis Co., New York)	35.37
FLUID BEEF JELLY (Mosquera-Julia Food Co., Detroit) ..	31.03

Special notice is directed to the price of some of these preparations, which in spite of their large water content, are higher priced than some of the solid meat extracts.

MEAT JUICES

The following is given as the standard for preparations of meat juice:

"Meat juice . . . is the fluid portion of muscle fiber obtained by pressure or otherwise, and may be concentrated by evaporation at a temperature below the coagulating point of the soluble proteids. The solids contain not more than 15 per cent. of ash, not more than 2.5 per cent. of sodium chlorid (calculated from the total chlorin present), not more than 4 per cent. nor less than 2 per cent. of phosphoric acid (P_2O_5), and not less than 12 per cent. of nitrogen. The nitrogenous bodies contain not less than 35 per cent. of coagulable proteids and not more than 40 per cent. of meat bases."

It is especially noticeable among the meat juices, so called, that none shows any appreciable amount of coagulable proteids. Valentine's Meat Juice and Wyeth's Beef Juice, besides being below the standard in total solids as fluid extracts,

are misbranded when called meat or beef juices, as can readily be seen by comparing the results of the analyses and the standard.

Wyeth's Beef Juice is advertised as containing "all the albuminous principles of beef in an active and soluble form" and "in an unaltered form"—two statements that are on the face of them untrue and misleading. To say that all the albuminous principles of meat are present is to say that not only the juice of the meat but all the fiber is present, which evidently is not true. Then again, to say that it is present in an unaltered form is far from the facts, for, as is stated on page 18 of the Bulletin: "It appears impracticable to prepare a true meat juice for market, as the temperature necessary for the preservation of food products in hermetically sealed packages coagulates the proteids and changes the nature of the product." On page 55: "When prepared under the best possible conditions a commercial meat extract is, of necessity, in order that it may not spoil, deprived of the greater part of the coagulable proteids, which constitute the chief nutritious elements of the juice."

On examining the tables of analysis, it is seen that Wyeth's Beef Juice contains but 23 per cent. of its total proteids in a coagulable form, while the standard calls for 35 per cent., thus showing it to be no more valuable as a food product than any other so-called meat juice, the statements of the manufacturers to the contrary notwithstanding.

In the case of Valentine's Meat Juice we note a large discrepancy between the standard requirements and the results of the government analysis, for instead of the proteid matter containing 35 per cent. in the coagulable form, it contains but 1.6 per cent. These figures show, then, that Valentine's preparation contains practically no coagulable proteids, and since the quantity of these measures the food value of such preparations, the conclusion must be drawn that Valentine's Meat Juice has practically no value as a food and should certainly not be classed as a meat juice.

Bovinine, another widely advertised meat preparation, which, according to statements on "The Bovinine Co.'s" letter head, is "a concentrated beef juice" and "the only perfect food in the world" was analyzed and found below the standard set for meat juices, since it contains only 3.38 per cent. of coagulable proteids. Yet in spite of this discrepancy, the manufacturers of Bovinine persist in exploiting it as a food, stating it to be " . . . a concentrated easily assimilable, nitrogenous food," and in another place it is stated that Bovinine "is an ideal food." As it is deficient in coagulable proteids and thus below the requirements as a food, it is misbranded when called a food of any sort, for to quote again the Bulletin, page 55: " . . . meat extracts . . . must not be looked on as representing in any notable degree

the food value of the beef or other meat from which they are derived"; and, again: "They are not, however, concentrated foods, having, on the contrary, but comparatively little nutritive value."

Taken individually or as a class, meat extracts are not to be considered foods, and should, therefore, not be advertised as such, a conclusion which the government officials have come to and voiced in the conclusion of the Bulletin as follows:

VALUE AND LIMITATIONS

"It seems to be the consensus of opinion among scientific investigators who have studied this question that the food value of these meat extracts is rather limited, and although they are a source of energy to the body they must not be looked on as representing in any notable degree the food value of the beef or other meat from which they are derived. When prepared under the best possible conditions a commercial meat extract is of necessity, in order that it may not spoil, deprived of the greater part of the coagulable proteids, which constitute the chief nutritious elements of the juice."—(*From The Journal A. M. A., Jan. 23, 1908.*)

PHARMACEUTICAL MANUFACTURERS AND THE GREAT AMERICAN FRAUD

At various times we have given more or less complete accounts of the prosecutions the United States Government has brought against nostrum exploiters under the Food and Drugs Act. One of the more recent of these, while of comparatively little interest *per se*, is of importance to the medical profession, because of certain elements connected with it. The case is known technically as "Notice of Judgment No. 284" and deals with the "Alleged Misbranding of Danderine." The gist of the case is as follows: Casks of Danderine—a widely advertised "hair tonic"—were shipped in carload lots from Michigan to West Virginia, where the product was bottled, labeled and put in condition to be retailed. Danderine contains a percentage of alcohol which, while given on the labels of the bottles in which it is sold, was not stated on the casks in which the preparation was shipped in bulk. The government sought to confiscate, under the Food and Drugs Act, sixty-five casks thus shipped because the quantity or proportion of alcohol in the casks was not stated. The Knowlton Danderine Company resisted the confiscation and the court upheld the company's claim.

The point in this case which is—or should be—of interest to the medical profession is to be found in the "statement of facts" presented by the Knowlton Danderine Company in its own defense. Here it is said that: "Parke, Davis & Co., who are mentioned in the said libel as shippers . . . are

under contract with the said Knowlton Danderine Company . . . to compound the said formula . . .” Elsewhere it is stated: “Parke, Davis & Co. were . . . the manufacturing agents, under contract, of the owner, the Danderine Company . . .”

This evidently means that Parke, Davis & Co., who are generally supposed to manufacture only “ethical” preparations—proprietary or otherwise—and as such to desire the respect and good wishes of the medical profession, are in the business of furnishing the supplies for nostrum venders. What Danderine is, it is hardly necessary to specify. The widely distributed advertisements of this “hair tonic” nostrum with the slogan: “Danderine Grows Hair and We Can Prove It” are sufficiently well-known to all who read to make a lengthy disquisition on the product unnecessary.

It is interesting in this connection to note that according to newspaper dispatches the Danderine Company has absorbed the Sterling Remedy Company, which exploits “Cascarets.” Three years ago a physician, who is also a pharmacist, wrote to the *Medical World* regarding the manufacture of Cascarets:

“. . . I have positive evidence, which I will gladly submit, that P., D. & Co., make all of them [Cascarets], and that they have a contract with the Cascaret people not to make anything similar for any one else.”

In the circular which comes in the Danderine packages two other “specialties” are advertised: “Neuralgine” for “sick, weak, tired nerves” and “Drake’s Palmetto Compound” for “weak stomachs, sluggish lives, disordered kidneys,” and various other derangements of the system. The question naturally arises, are these, too, shipped in casks from Parke, Davis & Co., and merely bottled and labelled in West Virginia?

Not that the Danderine case is the first one in which Parke, Davis & Co. have been exposed as manufacturers of nostrum supplies. “Vitaopathy” a method of “treatment” practiced by the notorious New York Institute of Physicians and Surgeons in the person of “Prof.” Adkin and apparently consisting of “absent treatment” and pills, was finally put out of business by a fraud-order from the post office department. The concern used to advertise:

“In Professor Adkin’s laboratory, his chemists are daily engaged in extracting the life-and-health-giving principle from rare vegetables, fruits and plants.”

“Prof.” Adkin had no laboratory; his chemists, according to the government report, were Parke, Davis & Co., from whom he purchased the tablets which formed part of his stock-in-trade of quackery.

The Nutriola Company of Chicago was declared fraudulent by the postal authorities and a full account of the methods

of this fake medical concern appeared in *THE JOURNAL*, April 28, 1906. Nutriola was advertised as:

"The greatest Chemical-Medical Preparation ever prepared by the skill of man."

"Nutriola and Nature are the only invincible conquerors of diseases ever known."

The promoter of this scheme was one Edward F. Hanson, who was questioned by the government inspectors regarding the manufacture of the Nutriola nostrum. Quoting from the government report:

"Q. Please name the chemists who now manufacture the remedies of the Nutriola Company."

"A. Parke, Davis & Company, Detroit; E. L. Patch Manufacturing Company, Stoneham, Mass.; Seabury & Johnson, New York."

Not that the course pursued by Parke, Davis & Co. is by any means an exceptional one in the pharmaceutical world. It may be recalled that *THE JOURNAL* has previously referred to the fact that Sharp & Dohme are reported to make or to have made the "Getwell Tablets" for the "patent medicine" concern which exploits the nostrum; and that Frederick Stearns & Co. make or did make the widely advertised "cures" Shac and Zymole Trokeys also has been mentioned. That Seabury & Johnson made preparations for a fake medicine concern was brought to light by Mr. Adams in the "Great American Fraud" series. And unquestionably there are many others. The attitude taken by such houses seems to be that they are willing to furnish anything in the pharmaceutical line that anyone is willing to pay for, whether it is for legitimate use of the physician or pharmacist or for furthering the business by which the ignorant or gullible sick are humbugged and defrauded.—(*From The Journal A. M. A.*, July 2, 1910.)

DOWD'S PHOSPHATOMETER

Dowd's Phosphatometer, according to its inventor, is a device "for taking the phosphatic index or pulse of the nervous system." Its originator, J. Henry Dowd, M.D., Buffalo, N. Y., writes enthusiastically of his instrument:

"Physicians who use the Phosphatometer are sending 50 per cent. less patients away for consultation, getting 75 per cent. better results at home, because the Phosphatometer tells the cause and what to do, and the Comp. Phosphorus Tonic gives results in 80 per cent. of all conditions of illness."

The "Comp. Phosphorus Tonic" referred to in the above quotation is a sideline of Dr. Dowd's, put out by the Richardson Company, of Buffalo. The stationery of the Richardson Company gives its address as 334 Franklin Street, but directs that all communications be addressed to 40 North Pearl Street, which is the private address of J. Henry Dowd.

According to the Buffalo directories, 334 Franklin Street is the drug store of Arthur E. Reimann.

To those who read the Dowd "literature," the Phosphatometer will appear to be either one of the wonders of the age or an unscientific absurdity. To the thinking man it will be the latter. It pretends to determine the amount of phosphates in the system. This is accomplished—alleged—by taking the second urine passed in the morning and mixing a portion of it in the instrument with a solution which is the well-known magnesia mixture. The height to which the crystals settle in ten minutes determines, according to Dowd, the amount of phosphates! Was ever a test devised that violated more of the first principles of quantitative chemical analysis? If so, we never heard of it. Dowd's system does not require any determination of the amount of urine passed in twenty-four hours or even of the amount passed at the second micturition in the morning.

If a patient whose urine was being "tested" by the Dowd method, should drink two cups of coffee for breakfast instead of one, his urine might be so dilute that the phosphates would fall below the "normal" mark. Dowd says that his Phosphatometer "takes the pulse of the nervous system." What about the patient who eats several eggs or consumes a sweetbread or other nuclein-containing articles of diet? The increased amount of phosphates in such a diet might easily lead to an apparent excess in the urine. Every physician, nay, every sophomore medical student, knows that the amount and kind of food ingested governs almost entirely the amount of phosphates excreted in the urine.

What actually does "Dowd's Phosphatometer," when used according to instructions, show? It shows the *presence* of phosphates in the urine; it permits a guess—with not the slightest claim to accuracy—as to the amount in the specimen tested; it gives no possible clue to the normal or abnormal relation of the phosphates in the urine or as to whether the source of the crystals precipitated is the nerve tissue or the food. Yet here are some of the claims made for it:

"The Phosphatometer shows nervous metabolism the same as the ureometer shows muscular; the former errs in about 3 per cent.; the latter in 40 per cent."

"The Phosphatometer shows the amount of nerve food being used and present in the nerve cells."

"Over 50 per cent. of pain and human suffering is due to the nerves crying for food; the Phosphatometer will show the true cause in ten minutes."

"The Index not only tells the present condition, but foretells the future, thus preventing serious complications which might arise."

"The Phosphatometer measures the amount of phosphorus in the system."

"The Dowd Phosphatometer not only takes blood-pressure, it tells how to regulate it."

"The Phosphatometer measures the amount of phosphorus in the nerve cells; it is as positive in nerve troubles as the x-ray in fractures."

These claims are essentially false. As a matter of fact, a simple examination of the urine for phosphates cannot tell us the condition of the nervous system. This must be evident from the fact that only a portion of the phosphates is excreted in the urine, a very considerable part passing out with the feces. Further, the bulk of the phosphorus excreted comes from the food and only a small portion from the waste of the nervous system. The amount excreted by the urine which comes from torn-down nerve tissue is so small that it is practically impossible to estimate variations in it even by the most careful analytic methods.

In brief, Dowd's "scientific method" is nothing more than unscientific humbug.—(*From The Journal A. M. A., Dec. 20, 1913.*)

AMORPHOUS PHOSPHORUS *

A Practically Inert Substance Introduced as a Valuable Therapeutic Agent

Amorphous phosphorus is a chemical anomaly contrasting markedly with ordinary phosphorus in its physical, chemical and pharmacologic properties. Ordinary phosphorus is soluble in certain solvents, such as oil; amorphous phosphorus is insoluble. Ordinary phosphorus is poisonous; amorphous phosphorus is not poisonous. Ordinary phosphorus has been regarded as of some therapeutic value; amorphous phosphorus, because of its insolubility and other physical properties, has never been so regarded. Pharmacologists, therefore, have paid very little attention to it. Some of them do not even mention it, though there are a few accounts of experimental work.

Noé,¹ in experiments on the action of phosphorus with yeast, found that yeast acted on ordinary phosphorus, producing PH_3 (hydrogen phosphid), but on amorphous phosphorus it had no action. His experiments show that amorphous phosphorus was not toxic to animals.

Thornton² quotes Reese as publishing a report of a case in which 30 grains of amorphous phosphorus were taken by a young woman with suicidal intent, but no toxic symptoms were manifested. Thornton found it non-toxic to animals.

Witthaus and Becker (Medical Jurisprudence, Forensic Medicine and Toxicology, iv, 635) say: "The form of phos-

* The so-called amorphous phosphorus is in reality a crystalline body and is more correctly called red phosphorus to distinguish it from the ordinary or yellow phosphorus. It is the ordinary or yellow phosphorus which is official as "Phosphorus."

1. Noé, J.: Action comparée du phosphore blanc et du phosphore rouge sur la matière vivante, *Compt. rend. Soc. de biol.*, 1899, 105, i, 380.

2. Thornton, E. O.: The Advantages of Amorphous Phosphorus over the Official Form, *Therap. Gaz.*, 1894, xxxv, 19. *Tr. Pan. Am. Med. Congress*, 1893, Washington, 1895, p. 1,438.

phorus is practically non-poisonous, probably by reason of its insolubility. It has been administered to dogs to the extent of 200 gm. (nearly half a pound) in twelve days without causing poisoning."

C. D. F. Phillips (*Materia Medica, Pharmacology and Therapeutics, Inorganic Substances*, Ed. 3, p. 46) makes the following statement: "Amorphous phosphorus has been, by some observers, credited with physiologic activity. Thus, Bednar used it for a long period in small doses, and observed symptoms of excitation, trembling and clonic convulsions; but as much as 1 ounce has been given to dogs without perceptible effect. Thompson, in twelve carefully observed cases, found its action nil, and plausibly attributes its supposed powers to a slight admixture of ordinary phosphorus (*Pharm. Jour.*, 1875). I believe it is practically inert."

HOW INTRODUCED

The foregoing represents our scientific knowledge as to the action of amorphous phosphorus. Now, however, comes Dr. I. L. Nascher and introduces amorphous phosphorus as a remedy of remarkable value for the arteriosclerosis of old age. The method of introduction is somewhat peculiar. The treatment seems first to have been brought to notice through a printed slip sent to medical journals generally. This slip consisted of an extract from Nascher's book on old age, which at the time had not been published! Nascher also published an article on this subject in an obscure journal, the *American Practitioner*, for December, 1913. Neither the matter copied from his book nor the article referred to contain a single scientific fact that would warrant the claims made for it as a therapeutic agent. No record is given of animal experiments, and the clinical evidence presented certainly cannot be regarded as scientific.

As already stated, this form of phosphorus has not been previously used and has been regarded as without effect on the human system because of its insolubility in any of the liquids of the body. Nascher himself has not been able to find any new way to dissolve it. He says: "I made a number of experiments to find a solvent. The only substance which appears to dissolve it is serum, but I am still uncertain whether it is a solution or a very fine suspension. The phosphorus is precipitated in a few days, but the serum remains tinged." The fact that it separates from the serum on standing is quite conclusive evidence that it is insoluble in that liquid. Since no way of making it soluble has been discovered, there is no reason for expecting it to have any effect on the system. An insoluble and non-absorbable substance can produce no general systemic effect; if, when ingested, it produces any effect whatever, this effect must be local and will be shown by symptoms of gastro-intestinal disturbance. Nascher, however, took 15 grains, and no symp-

toms of gastro-intestinal disturbance followed. Hence, we must conclude that it is without effect on the gastro-intestinal mucous membrane. While Nascher records no experiments on animals which is much to be regretted, he did experiment on himself and says:

"Ten grains produced a frontal headache, restlessness, excessive mental stimulation, ideas arising with such vividness as to appear as actual occurrences. There was a sense of weight or oppression in the stomach and priapism, the latter probably psychic, as I was looking for such a result. These symptoms passed away in a few hours."

Without doubt his explanations of the priapism can be applied to the whole experience; whatever symptoms there were, they were unquestionably psychic. The consideration of these subjective symptoms may be dismissed, since it is reasonable to assume that an insoluble, unabsorbable substance which produces no disturbance of the gastro-intestinal tract will have no effect on the rest of the organism.

Amorphous phosphorus did not produce such symptoms as Nascher relates in experiments similar to his made by us. The drug was taken in 10-grain doses by six different individuals. In no case did the symptoms described by Nascher follow; in fact, there were no symptoms whatever.

NASCHER'S THEORY

Nascher, after relating his subjective experiences and those of his patients, proceeds to build a theory to account for the unproved action of amorphous phosphorus in disease, especially in arteriosclerosis. It would have been more appropriate if before advancing the theory, he had made some experiments to prove that the substance has some action. But we give his theory as found in the quotation from his book, sent to medical journals, as already referred to. Here it is:

"Amorphous Phosphorus in Senile Arteriosclerosis: The author has used the red amorphous phosphorus in senile arteriosclerosis for several years. Given originally as a substitute for ordinary phosphorus in senile debility, it was found that it was eliminated as amorphous phosphate of lime and that the lime elimination was thereby increased. Weil's experiments showed that the lime elimination in arteriosclerosis was diminished. Phosphorus has the property of combining with lime and increasing the lime assimilation. In the small doses which can be given when the ordinary phosphorus is employed, the phosphorus will combine with the lime of the food and increase the amount of lime-salts in the body. When given as amorphous phosphorus, the dose is 2 grains or more several times a day, and with a lime-free diet the lime required for the combination necessary to secure the elimination of the phosphorus excess is drawn from the abnormal lime deposits. This appears to be the rationale of the treatment and explains the good results obtained from its use. From 'Diseases of Old Age,' by I. L. Nascher, M.D., to be published shortly."

Thus, according to Nascher, the phosphorus, after being oxidized to phosphoric acid, catches the calcium and drags it out of the system! What are the facts? The human body contains a large store of phosphates which are excreted

in the urine in combination with sodium and potassium—and yet these do not draw the calcium from the blood, brain and bones! To be blunt, Nascher's theory is absurd. The calcium in its various deposits in the body is already combined with phosphoric acid. Why should the phosphorus introduced take calcium from the phosphate radical with which it is already in combination? Nascher asserts that the phosphorus which is introduced as amorphous phosphorus is excreted as amorphous phosphate of lime within twenty-four hours. How does he know it is? It is, of course, very appropriate that amorphous phosphorus should form the amorphous phosphate of lime, but, unfortunately, phosphates made from the ordinary phosphorus also are precipitated in the amorphous condition. By what private mark does Dr. Nascher identify the amorphous phosphate produced by his amorphous phosphorus? Is it not a fact that he found the urine alkaline and detected a precipitate of amorphous calcium phosphate—always present in alkaline urine—and concluded that this must be his particular amorphous phosphorus in combination with calcium?

Dr. Nascher makes no record of examinations of the feces, although a great part—sometimes the greater part—of ingested phosphorus is found in the feces in experimental work on phosphorus metabolism. If he had examined the feces he would doubtless have found the total quantity of amorphous phosphorus unchanged.

Nascher refers to several cases in which he has used this remedy and states that he had the most gratifying results. So far as we can learn, the benefit was entirely in the subjective symptoms of the patient. It seems evident, therefore, that his claims for the value of this remedy rest on no better foundation than an unproved theory without experimental basis.

ITS COMMERCIALIZATION

Thus far we have considered only the scientific aspects of amorphous phosphorus therapy. It is unfortunate that we cannot stop here. Some of our readers will have seen in recent medical journals half-page advertisements of amorphous phosphorus reading:

The striking physical and chemical properties possessed by common phosphorus, together with the fact that phosphorus is one of the constituents of nerve-tissue, are probably responsible for the reputation which this element acquired generations ago as a remedy for sexual impotence and mental decay. Among scientific men this reputation was a fleeting one, for, when put to the test, the product failed. Like so many products with a similar history, the unearned reputation it obtained from medical men survived in the minds of the laity, and, as is always the case, the survival has been

taken advantage of by quacks. Among charlatans and nostrum makers phosphorus is still in vogue. "Weak men's specialists" and venders of "lost manhood" and alleged aphrodisiac drugs "play up" the phosphorus fallacy for all it is worth.

It is worth noting that the present exploitation of amorphous phosphorus is following along somewhat similar lines. The asserted actions of amorphous phosphorus are such as may be calculated to appeal to the sexual neurasthenic. There is no doubt that the Sharp & Dohme advertisements will bring about an extensive use of this remedy, especially by the uncritical. The psychic element—which plays so large a part in the sexual neurasthenic—will result in favorable reports being given on the drug. Articles may be expected

A New and Successful Method of Treatment

For *SENILE ARTERIOSCLEROSIS* with its accompanying Debility and Degeneration, Excessive Viscosity of the Blood, with Consequent Diminished Nutrition, Functional and Senile Impotence, is with

Pill Phosphorus Amorphous S&D

(1 Grain Each)

Made under the direction of Dr. I. L. Nascher, New York

Samples and Literature from

SHARP & DOHME

Chemists since 1860

Chicago

St. Louis

BALTIMORE
New Orleans
NEW YORK

Atlanta

Philadelphia

Reproduction—reduced—of half-page advertisement appearing in medical journals.

to appear in a certain class of medical journals, telling of the marvelous results that Dr. John Doe has had in the use of "Pill Phosphorus Amorphous S. & D." A luxuriant crop of testimonials may be expected to follow, and the *tout ensemble* will go far to sustain the Sharp & Dohme propaganda.

We are prompted to believe that Messrs. Sharp & Dohme do not fully realize the potentialities for harm that lie in their present exploitation of amorphous phosphorus. It hardly seems possible that a firm of standing would knowingly put on the market and advertise a worthless drug with an appeal to susceptible, infirm old men. The function of introducing new remedies to the medical profession

is a responsible one, and a firm that assumes it should have among its officers some one sufficiently conversant with pharmacologic science to prevent such unscientific absurdities as that exhibited in the marketing of amorphous phosphorus, especially under such claims as those contained in the advertisements.—(*From The Journal A. M. A., March 7, 1914.*)

Dr. Nascher's Reply to The Journal's Article—Comments

To the Editor:—Regarding the article on Amorphous Phosphorus in the March 7 issue of THE JOURNAL of the American Medical Association, I want first of all to clear myself of the implied charge of commercialism in connection with the marketing of the Pill Phosphorus Amorphous by Sharpe & Dohme. I have never had anything to do with the manufacture or sale of those pills, never had any business dealings with Sharpe & Dohme and I have no commercial interest whatsoever in either this or any other drug or drug house. I knew nothing about the advertisement which you reproduced until I saw it in the medical journals. I immediately protested against this unwarranted use of my name and was assured that the statement "Made under the direction of Doctor I. L. Nascher, New York," was not made for the purpose of misleading and that the ad. would be immediately withdrawn. I gave my approval to the pills made by this firm as I would give my approval to the pills made by any other reliable house for I claim the right to endorse any drug or preparation which I believe to be of value whether it is approved by the Council of [on] Pharmacy and Chemistry or not.

In your general charge of commercialism you make it appear that the exploitation of amorphous phosphorus had the ulterior purpose of appealing to the sexual neurasthenic along the lines of the "lost manhood" ads. So far as this relates to Sharpe & Dohme, I have no interest, but you have included me in your general denunciation. The only reference I ever made to aphrodisiac effects of Amorphous Phosphorus, in all my writings, is contained in these words in the four-page article in the *American Practitioner*, "In a few cases aphrodisiac effects were noticed." I have never recommended amorphous phosphorus as an aphrodisiac and in the chapters on "Impotence and Neurasthenia" in my book on "Diseases of Old Age," I have not mentioned amorphous phosphorus at all.

You say "the treatment seems first to have been brought to notice through a printed slip sent to medical journals generally." This slip containing an extract from my book which was then in press was sent out about four months ago while I have referred to amorphous phosphorus repeatedly in medical articles during the past three years. In my paper on Senile Debility, *Medical Record*, Jan. 21, 1911, I said amorphous phosphorus had no effect, as I was then looking for the usual effects of the ordinary phosphorus. In a paper on Senile Mentality, *International Clinics*, Vol. 4, 21st series, I said I was using amorphous phosphorus but had not yet

determined its value. I recommended it in several of my papers, articles and lectures in 1912 and 1913 after I had found that under its use in some cases of senile arteriosclerosis, symptoms were relieved. I sent these slips to the medical journals as a general reply to many inquiries I received about amorphous phosphorus and I stated this in the letters I sent with the slips to some editors. Further inquiries for more information led me to write the paper which appeared in the December issue of that "obscure journal" the *American Practitioner*. I felt that a medical journal which carried articles by Sir James Barr, ex-president of the British Medical Association, Sir R. W. Philip, R. Murray Leslie, Halliday Sutherland, and such American authorities as Adami, Hare, Brooks, Hirschberg, Knopf, Starkey, Ely, Bissell, Wilcox, Col. Maus, U. S. A., etc., was a representative high class journal and I was pleased to have my paper in it.

To take up the scientific criticism of amorphous phosphorus, permit me to say at the outset that I am a general practitioner, specially interested in geriatrics, and more concerned about obtaining favorable clinical results in my cases than in solving laboratory problems. Nevertheless I have tried for years to obtain the cooperation of expert laboratory workers to help me determine the properties, chemical, physical and physiological, of amorphous phosphorus. In 1909 or 1910 the Rockefeller Institute, in reply to my request for permission to experiment there with amorphous phosphorus, said it did not accept volunteer workers. Four heads of college laboratories could not spare the time. I asked the Council on Pharmacy and Chemistry last November to take up its investigation and was informed that it could not do so at present. I have been perforce compelled to depend mainly on empirical methods with such little experimentation as the facilities of the physician's office permitted and such little literature as I could find.

You reject empirical methods as being unscientific notwithstanding the fact that most of our therapeutic knowledge is based on empiricism. (I use the terms empirical and empiricism here in the sense of knowledge obtained from experience and observation, not in the bad sense in which they might be construed.) It would therefore be folly on my part to argue with you that I have obtained beneficial results from amorphous phosphorus in many cases of senile arteriosclerosis. I did not obtain such results from a single dose, but gave it in some cases for many weeks or months. It is unfair to judge of the value of a drug from a single dose or several doses unless it is a drug which is expected to show immediate effects. It would be greater folly on my part to pit my knowledge of pharmacy and chemistry against the knowledge of your staff of experts. I can but repeat what I have said on many occasions that under the persistent use of amorphous phosphorus in cases of senile arteriosclerosis symptoms were frequently relieved. I never claimed that amorphous phosphorus will cure arteriosclerosis. In the chapter on Arteriosclerosis in my book I say: "Senile arteriosclerosis being a natural, normal condition, is incurable in the sense that it can be neither prevented nor removed. The

best that we can hope for is to retard its progress and relieve disagreeable symptoms, etc."

You say in reference to the elimination of the amorphous phosphorus as amorphous phosphate of calcium, "Is it not a fact that he (I) found the urine alkaline and detected a precipitate of amorphous calcium phosphate—always present in alkaline urine—and concluded that this must be his particular amorphous phosphorus in combination with calcium?" No. The specimens of urine were examined in reliable laboratories and I have reports showing acid and neutral urine as well as alkaline urine having the amorphous phosphate precipitate. Nor is the amorphous phosphate "always present in alkaline urine."

As for the theory I advanced, it is simply a theory based on reasoning without facts to prove it. If I had facts to prove it, it would no longer be a theory or open for discussion. Being a theory, it is the province of the wise man to ridicule it and call it absurd. I will confess that your criticism of it is not clear to me and I still do not see its absurdity. I don't see what relation your argument, that the phosphates of sodium and potassium do not draw the calcium from the blood, brains and bones, has to the theory I advanced. It is true that I have no private mark by which I can identify the amorphous phosphate produced by amorphous phosphorus, but such argument is puerile. When medical science has so far progressed that the physician will be able to put his tag on the molecule of drug substance and follow it through the various metabolic processes to its final elimination we will not need any Council on Pharmacy and Chemistry to decry what it cannot understand. Let me say here that scientific criticism does not stoop to ridicule for ridicule is usually based on animus or bias.

The conclusive proof of the value of a drug is not its action on the healthy dog, frog or guinea-pig but its action on the individual patient, and no amount of animal experimentation can dispose of the personal factor which is so marked in senile cases. This is no criticism of animal experimentation as a whole but of the insistence on animal experimentation to determine the value of a drug in a class of cases for which the healthy animal can furnish no comparison.

You say amorphous phosphorus is practically inert and quote Noé, Witthaus and Becker, Thornton and Phillips. The quotations of the first three are little more than statements that amorphous phosphorus is non-toxic. Phillips makes two references, one of which is to Badner who obtained decided effects from its prolonged use. Thornton, whom you quote in your contention that amorphous phosphorus is inert, says that on prolonged use in doses of 3/10 grains every two hours it produced headache, vertigo, mental excitement, priapism, etc. (See footnote under Phosphorus, U. S. Dispensatory). Shoemaker's *Materia Medica and Therapeutics* says it is toxic and is called the servant-girl's poison. Phillips suggested that Badner probably used an impure drug. I suggested that Thornton probably used an impure drug. On the other hand, Badner and Thornton obtained positive results from prolonged use, not from the single dose.

You say it has not been used on account of its insolubility in any of the liquids of the body. Roscoe and Schörlemmer, quoting Neuman, said if injected into the blood the usual symptoms of phosphorus poisoning appear. In a letter from Dr. Hatcher he says Nassé injected 0.2 gm. of the purest amorphous phosphorus into a rabbit's vein and the animal presented the usual symptoms of phosphorus poisoning. There are also references to amorphous phosphorus action in Kobert's *Lehrbuch der Intoxicationen*, in Blythe's *Poisons*, etc.

You say of your four quotations, "the foregoing represents our scientific knowledge as to the action of amorphous phosphorus." Did you not know of these other authorities, or are their statements unscientific, or were they omitted because they disprove your contention that amorphous phosphorus is practically inert?

Your denunciation of ordinary phosphorus has no bearing on the subject as I do not recommend the amorphous phosphorus as a substitute for the other.

I have worked for eight years to arouse medical and public interest in the aged and their ailments and I cannot afford charges of commercialism, foisting worthless drugs as aphrodisiacs or other unethical conduct to stand against me. As for the charge of unscientific work, I can only point to my work on *Diseases of Old Age*, and my medical papers, and express the hope that others better equipped for laboratory research will take up the laboratory investigation of amorphous phosphorus. I have faith in its therapeutic value and believe competent clinical observers will have favorable results from it in suitable cases.

I. L. NASCHER, M.D., New York.

COMMENT.—Accompanying the preceding letter was a note from Dr. Nascher in which he says: "I want this published in full without elision or change. If you do not intend to publish it as written, I want it returned and enclose postage." The letter therefore is given in full in spite of the fact that much of it is irrelevant to the question discussed.

Dr. Nascher's protest to Sharpe and Dohme against the "unwarranted use" of his name in connection with "Pill Phosphorus Amorphous, S & D" seems to have resulted in various modifications of the phrases connecting his name with the exploitation of this pill. What was apparently the original advertisement, contained the phrase:

"Made under the direction of Dr. I. L. Nascher, New York."

Later advertisements, while identical in all other respects with the first, had this phrase modified to read:

"Made at the suggestion of Dr. I. L. Nascher, New York."

Still other advertisements, also identical with the first in other respects, are modified to read:

"Made with the approval of Dr. I. L. Nascher, New York."

That Dr. Nascher was directly or indirectly connected with the commercializing of this product, THE JOURNAL has never

suggested, inferentially or otherwise. That the exploitation of amorphous phosphorus by Sharpe and Dohme is one that appeals to the sexual neurasthenic, no one who has read the advertisements can deny. As a matter of fact, it would be difficult to sell phosphorus in any form as a medicament, without appealing to the sexual neurasthenic. The word "phosphorus" has become, in the minds of both laymen and physicians, more or less synonymous with the treatment of so-called sexual weakness and it is a practical impossibility to divorce the word from the idea suggested. How true this is, Dr. Nascher himself unwittingly admits when he tells that the result of his first experiment on himself with amorphous phosphorus was a priapism that he acknowledges was "probably psychic, as I was looking for such a result." But the Sharpe and Dohme advertisements plainly state that the amorphous phosphorus pill they are marketing is a "new and successful method of treatment for . . . functional and senile impotence. . . ."

Dr. Nascher's explanation of how he came to send out the slip regarding amorphous phosphorus to medical journals leaves him the victim of an unfortunate coincidence. It is at least unusual for authors to send out advance extracts from books that are about to be published, especially when such extracts deal wholly with a drug that is coincidentally being introduced as a new proprietary product by some enterprising pharmaceutical house.

Dr. Nascher takes exception to our statement that the treatment seems first to have been brought to notice through the printed slip sent to medical journals, and states that he has "referred to amorphous phosphorus repeatedly in medical articles appearing during the last three years." His articles for 1912 and 1913 have been examined for the purpose of learning when the treatment as now presented to the profession was first announced. In his article "Errors in the Treatment of Senile Cases," *New York Medical Journal*, Oct. 12, 1912, he speaks of the iodids in senile arteriosclerosis, but says nothing about amorphous phosphorus. It may be assumed, therefore, that the treatment had not been brought to general notice at that time. The new treatment is very briefly described in the *New York Medical Journal*, July 13, 1913, in an article whose title, "Longevity and Rejuvenescence" gave no indication that it dealt with amorphous phosphorus. Under the circumstances, it is not strange that its therapeutic value was not learned of until Dr. Nascher's printed slips were sent out.

Dr. Nascher admits that his theory is based on empirical methods. Most of the serious errors in therapeutics have had their origin in this very method. It was on just such methods that physicians reported wonderful results in the use of alleged "lithia waters" that actually contained less lithium

than ordinary river water! So unscientific is the empirical method that it is hardly worth taking the space to demonstrate its imperfections.

Neither is it worth while to discuss the question of a constant occurrence of a sediment of amorphous calcium phosphate in alkaline urine. If there are exceptions to this rule, they must be rare indeed.

In THE JOURNAL'S article authors were quoted to show that amorphous phosphorus is regarded as inert. It was not suggested that the authorities referred to were all that could be found. Dr. Nascher refers to Thornton, Shoemaker, Neuman, Blythe and Kobert, and asks whether the various statements on the subject, made by these men, are unscientific or were "omitted because they disproved" the contention that amorphous phosphorus is practically inert. Thornton's article was omitted because it is unscientific in that he does not report experiments made by himself, but refers to an unpublished paper by one Kelly. Who Kelly is, or was, he does not tell us. Kelly's report, therefore, should be and was disregarded, since it is the work of an unknown author and there is nothing in the article to indicate that Thornton was in any position to vouch for Kelly's work. Incidentally, it may be said that Kelly's report merely recorded subjective symptoms; Dr. Nascher himself indicates his distrust of Kelly's alleged results by suggesting that an impure preparation was used!

Shoemaker's report was not given, for a similar reason. Shoemaker says:

"Amorphous phosphorus is almost completely destitute of taste or odor, has no immediate caustic effect, and is claimed to be less toxic than white phosphorus; but in the *form of matches* [Italics ours.—Ed.] has caused many deaths and is known as the 'servant girls' poison.'"

It is well known that commercial amorphous phosphorus is usually impure, and it is more than probable that if toxic effects were produced by the ingestion of match-heads, these matches were made either of white phosphorus or of very impure red phosphorus. In any case, Shoemaker's statement has no bearing whatever on the pharmacologic action of pure amorphous phosphorus.

The statement of Neuman quoted from Roscoe and Schorlemmer, as well as that of Nassé, referred to by Hatcher, had no bearing on the question at issue, as these men injected the material into the blood-stream. If, when the amorphous phosphorus is injected into the blood, it produces the ordinary symptoms of phosphorus poisoning, one would naturally expect the same symptoms when the substance is given by mouth—if amorphous phosphorus were soluble or absorbable. The fact that such symptoms are not produced when amorphous phosphorus is taken into the alimentary canal, sustains the views held by chemists, pharmacologists and physicians,

that the drug is practically insoluble and unabsorbable—in other words, inert.

Dr. Nascher declares that he “never claimed that amorphous phosphorus will cure arteriosclerosis.” Yet he insists that amorphous phosphorus removes lime from the “abnormal lime deposits” that occur in arteriosclerosis. What is this but claiming curative action?

Summed up, Dr. Nascher’s own admissions amply confirm the main contentions of THE JOURNAL’s article. He admits that he has no experimental basis for the use of this remedy; he admits that his theory “is simply a theory without facts to prove it.” The only conclusions that can be reached from his reply coincide closely with the very statement made by THE JOURNAL, and which we here reiterate:

“It seems evident, therefore, that his claims for the value of this remedy rest on no better foundation than an unproved theory without experimental basis.”—(*From The Journal A. M. A., March 28, 1914.*)



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(Including References to Articles Not Contained
in This Book)

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1. The references to topics discussed or mentioned in this volume are printed in CAPITALS.

2. The references to articles published elsewhere are printed in small letters. These references include papers published in THE JOURNAL of the American Medical Association, papers published in the "Annual Reports of the Council on Pharmacy and Chemistry" and a few published in the "Annual Reports of the Chemical Laboratory of the American Medical Association." A number of these papers have appeared both in THE JOURNAL and in the Council Reports. In such cases, for the benefit of those who may not have access to files of both THE JOURNAL and the Council Reports, references are given to both sources. Some of this matter is also issued in reprint form.

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Bitter Bark, Reports Council Pharm. & Chem., 1912, p. 39.	
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Buchu, Juniper and Acetate Potassium, Elixir of (Pitman-Moore Co.), Reports Council Pharm. & Chem., 1915, p. 166.	
Budwell's Emulsion of Cod-Liver Oil, Nos. 1 and 2 (Budwell Pharmaceutical Company), The Journal, Feb. 20, 1915, p. 684; Reports Council Pharm. & Chem., 1915, p. 135.	
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Cellasin (Mead Johnson & Co.), The Journal, Sept. 12, 1908, p. 931; Oct. 30, 1909, p. 1496; Reports Council Pharm. & Chem., 1905-8, p. 198; 1909, p. 118.	
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Digitalone (Parke, Davis & Co.), The Journal, June 12, 1909, p. 1938; Dec. 7, 1912, p. 2074; Jan. 11, 1913, p. 143.	
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Figwort, Reports Council Pharm. & Chem., 1912, p. 42.	
Filudine (Geo. J. Wallau, Inc.), The Journal, Sept. 18, 1915, p. 1045; Reports Council Pharm. & Chem., 1915, p. 156.	
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G. G. Phenoleum Disinfectant (G. G. Chemical Co., Inc.), The Journal, Jan. 30, 1915, p. 456; Reports Council Pharm. & Chem., 1915, p. 131.	
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Iodomuth (Organic Chemical Mfg. Co.), The Journal, Sept. 5, 1908, p. 818; May 8, 1909, p. 1511; Reports Council Pharm. & Chem., 1905-8, p. 166; Reports Council Pharm. & Chem., 1909, p. 75.	
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Peptenzyme, Elixir and Powder (Reed & Carnrick Co.), The Journal, Feb. 9, 1907, p. 533; Oct. 5, 1907, p. 1198; Reports Council Pharm. & Chem., 1905-8, p. 79.	
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Selenium compounds (in "Chemotherapy and Tumors"), The Journal, April 17, 1915, p. 1283; Reports Council Pharm. & Chem., 1915, p. 28.	
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Trilene Tablets, Reports Council Pharm. & Chem., 1912, p. 39.	
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Tuberculooids (Columbus Pharmacal Company), The Journal, Feb. 22, 1908, p. 704.	
Tubo-Arg (Tubo Pharmacal Co.), Reports Council Pharm. & Chem., 1915, p. 175.	
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